MARINE RECORD

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LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interests of Lake Carriers, and improve the character of the service rendered to the public.

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THE VIEWS OF MR. B. L. PENNINGTON, FORMER SECRETARY OF THE CLEVELAND VESSEL OWNERS' ASSOCIATION, ON TAPPING THE LAKES—ALL INTERESTS AGREE AS TO THE CONSERVANCY OF LAKE LEVELS.

CLEVELAND, O., Sept. 19, 1899.

THE MARINE RECORD:

Your request for my opinion concerning the effect on lake levels of the Chicago drainage canal and other menacing projects, duly received. I have been a careful reader of the views of our government engineers and others on the subject, for the most part published in your columns, and I will say, incidentally, that you are entitled to great credit for having so persistently kept this important question before the people, and for having invited and given space to numerous communications on the subject.

As to the need of deep and deeper water for the vast lake marine in channels and harbors, all agree.

As to the merit of the projects for benefit of certain municipalities and concerns, dependent upon tapping large volumes of water from the lakes, I suppose there is no disagreement.

The only question is, will the withdrawal of such an amount of water as shall be found indispensable to carry out the purposes of the projectors, seriously affect the lake levels and operate to the detriment of large vessels in reducing the draft of water in rivers and harbors?

As to the effect of the outflow at Chicago (the most formidable of the works projected to draw upon water dedicated to commerce) there is singular disagreement, even among government engineers. I will assume that these were not, in the least, biased by local fealty and influence, but honestly arrived at their conclusions through investigation and mathematics. But the fact that there is a difference in conclusion detracts from our estimate of their correctness. Most probably this question is without such precedent as will form a fair basis for definite calculation. If so, the difference in the conclusions of eminent engineers can readily be accounted for.

But these experts are continuing their "investigations." Hercules investigated the Egean stables and decided he could clean them after others had failed and their plans had come to naught. Turning the course of the river through them, he washed out the long accumulated excrement and improved their sanitary condition (as is proposed to be done at Chicago). We are not told whether suits for damages were brought against Hercules for changing the course of the river and leaving vessels stranded at the wharves on dry beds. Therefore, while the outflow from Lake Michigan will surely be successful in removing the filth from Chicago river (a consummation devoutly to be wished) it may result in stranding our deep draught steamers, even in our recently improved channels and harbors.

Meritorious as the Chicago drainage canal may be in itself, as well as the projects for tapping the lakes elsewhere, their value sinks into insignificance compared to the value and necessity of deep channels for our magnificent and still growing fleet of lake tonnage.

Now, as the effect of such outflow can be ascertained by experience only, the two governments should grant the privileges with the proviso that if the lake levels shall seriously be affected and the stalwart rights of the large lake steamers be encroached upon, the privilege be withdrawn. This might seem unjust to such enterprises, but the smaller interests involved must yield to the greater.

It has been ascertained, by experience, that the dredging of channels induces swifter currents and lowers the surface of water. This evidence has been influential in turning the minds of thoughtful observers to the consideration of methods to *raise the waters*, the better to solve the deep channel problem.

To subserve such purpose various schemes for raising the lake levels at different points have been suggested, one of which was the damming up of the water at entrance of Niagara river to raise the level of Lake Erie. It is unfortunate that, at the very time this subject was being seriously considered, these local schemes come forward to tap the waters, and most likely to lower the levels it was sought to raise.

An international commission would be a good thing, especially if those composing it were not personally interested in any lake port or resident therein.

B. L. PENNINGTON.

LAKE LEVEL QUESTION PREVIOUSLY SUGGESTED—AN INTERNATIONAL COMMISSION ENDORSED—TIMELY HINTS OFFERED BY THE SECRETARY OF THE COMMERCE COMMISSION, NEW YORK.

NEW YORK, Sept. 15, 1899.

THE MARINE RECORD.

I have followed your discussion of the subject of maintaining lake levels with the greatest interest, and I have been instructed by the replies that you have received from the distinguished and practical men of affairs in lake transportation and in engineering who have already contributed their suggestions and opinions upon the proposition of an international commission charged with the duty of investigating the subject, and making recommendations looking to the preservation of existing lake levels. I have been somewhat surprised, however, to note the absence of any reference to the work in this direction already inaugurated by Hon. Andrew H. Green, President of the New York Commissioners of the State Reservation at Niagara. It is an interesting and timely bit of history to learn that Mr. Green, several years ago, took this matter up in a thoroughly practical manner, and addressed a communication to Hon. John Sherman, then Secretary of the State, and suggesting the desirability of just such a commission as you now advocate, and as I note the majority of your distinguished correspondents approve of. Secretary Sherman's reply was that the subject was of great interest, and deserving of careful consideration. He desired, however, to ascertain the views of the governor of New York in the matter, and these were subsequently secured, Governor Black heartily concurring in Mr. Green's suggestion, evidence of which concurrence was forwarded to the Secretary of State, and who then took the matter up with Sir Julian Pauncefote, the British Ambassador at Washington, with a view to its subsequent formal submission to the British Government in the way of a suggestion of a joint or international commission of this character.

Mr. Green, whose life has been largely devoted to the advancement of municipal, state and national interests, and in the doing of which he has achieved such signal and beneficient results, is deeply concerned over the diversion of the flow over Niagara Falls and the possible ultimate destruction of that waterfall of unparalleled grandeur, unless something is done, in an international manner, to regulate and possibly check that diversion; and it is in the efforts he has put forth to preserve this magnificent handiwork of the Almighty from injury or destruction that he has come to look upon the whole question of regulating and maintaining lake levels as one of paramount interest to the welfare of both the United States and Canada, considering the commercial value inhering in the greatest possible depth in the lake channels and in the corresponding possibilities of cheapened transportation.

For the further information of all concerned in the timely and important discussion you have started, I would respectfully suggest that you communicate with the Department of State in order to ascertain how far the negotiations, initiated at Mr. Green's suggestion, have proceeded, and what the probabilities are of securing joint international action on the lines of your present suggestion. It would also be worth your while to consider the advisability of laying before the members of Congress—especially the Senate, because of its treaty making powers—copies of the discussion and communications published in your journal, with a view to the early adoption of the suggestion you make of an international commission. I take pleasure in remaining sincerely yours,

ALEX. R. SMITH.

SAND MARKINGS.

The regular markings often seen on sand hills and beaches have doubtless often excited the wonder of even casual observers. In a study of various wave phenomena, detailed to the Royal Geographical Society, Mr. Vaughan Cornish has given special attention to the rippling of sand by the wind, and he finds that the shape of such ripples is always approximately the same for all wave lengths from 1 to 145 inches, and is the same in desert sand as in that of the seashore. He has succeeded in reproducing them artifically by the action of a steady blast upon ordinary mixed sand. But sand from which the finer portion had been separated did not give the phenomenon, and it thus appears that the ripples depend upon the presence of particles fine enough to be tossed away by the eddy that forms in the lee of the larger grains. Sand dunes are built up by the wind on similar principles.

OFFICIAL NUMBERS GRANTED.

Official numbers assigned by the Bureau of Navigation, Treasury Department, Washington, D. C., to lake built tonnage during the week ending September 16, are as follows:

Steamers, Buffalo, N. Y., 3,951 gross, 3,772 net tons; Malietoa, Cleveland, O., 5,229 gross, 3921 net tons; Maunaloa, Cleveland, 4,691 gross, 4,004 net tons.

SANDUSKY handles coal at the rate of nearly 400 tons an hour. Last Friday whaleback barge No. 111 loaded 2,713 tons in seven hours, starting work at 6 a. m. loading was completed at 2 p. m., deducting one hour for dinner.

DULUTH—SUPERIOR.

Special Correspondence to The Marine Record.

The Great Northern road, will, the coming winter, erect on its property there the largest ore dock on the lakes.

The tug company at Duluth will be called the Union Towing & Wrecking Co., and will probably have a corporate existence distinct from the main company, the Great Lakes Towing Co.

Suit for $3,000, filed by the Inman Tug Co. against former United States Marshal R. T. O'Connor, of Duluth, has been dismissed. The suit was for damages to the tug L. L. Lyon, which was damaged by fire while in the marshal's custody.

Charles H. Bloomstrom has been appointed manager of the Lake Shore Iron works at Marquette. Mr. Bloomstrom is the inventor of the gas engine which the United States Government is testing with a view to its adoption for the life-saving service.

Capt. C. S. Barker, of West Superior, dredger and contractor on government work has purchased the steamer Natt Stickney, of Detroit, and has enrolled her at the Duluth custom house. Her gross tonnage is seventy-seven tons and net forty-one tons.

Franklin Bros. and C. J. Morris have received word to go ahead with the work on the new flour shed to be built by the Omaha road on Allouez Bay. The new shed will be a duplicate of the present one, which is 1,600 x 80 feet, and will be quite an addition to the storage facilities of the Omaha.

Steamboat men complain that the lumber companies are obstructing navigation with their rafts of logs and causing unnecessary delay to vessels. United States Marshal Meehan is at West Superior this week investigating the matter. Rafts of timber are entitled to all the rights of other floating bodies or objects, but, as a prominent vessel broker here, says, "their rights must not become a license."

Grain men anticipate some relief, lower freight rates and a turning of grain in large volume this way about November 1. It is estimated that by that time the stock piles of the ore companies will have been so nearly exhausted that few vessels can be given cargoes, and a freezing up would put an effectual stopper on the ore movement. Meantime, a good part of the best time of the year for the grain trade will have gone for the season.

The boats that have been delayed by the Houghton accident are just beginning to make their appearance from the lower lakes. During the blockade the light boats, most of them, at least, got by the obstruction, while most of the loaded boats could not. The result was a very large downfleet and more or less delay in consequence at lower lake ports. The boats have now become scattered again and a steady briskness is evidenced at all of the docks.

The Superior Ship Building Co. expect that the laying of the keel of the new steel barge which will be built on the same lines as the John Smeaton, will be commenced next week. After many weeks of waiting the company has been notified that the keel and rudder plates and other steel plates which were long ago ordered for this boat, are now on the way up the lakes. The Cleveland end of the business now rules this yard, as it is in the combine, and whatever Cleveland people say goes.

Powell & Mitchell, government contractors having the work at Portage entry and on the Marquette breakwater, are building the cribs at Houghton and towing them to Marquette. The distance is 80 miles. The cribs are 100 feet long and three have been safely landed in place at Marquette It is believed that this will cause government contractors to build their crib work in a place where it can be done to the best advantage and tow them when completed to the point where the contract is being carried out.

There is no longer any doubt of the intention of the Great Northern road to build a new ore dock on Allouez Bay this winter. It will be the largest ore dock on the Great Lakes, having 350 pockets, and a total capacity of 60,000 tons. The foundation work will be commenced as soon as the bay freezes, and the dock will be completed in time for next season's business. The two docks will have a capacity of 100,000 tons. F. D. Anthony, of Chicago, and A. H. Kennedy, of Cleveland, will have charge of the erection of the dock.

If wheat has done a little better than equal last year's receipts, coarse grains have not. Corn is about the same, rye is somewhat lighter and flax receipts for the first 15 days of September have fallen from 266,598 bushels last year to 166,642 bushels this year. The movement of wheat east has been larger than last year, though not notably so. Last year the shipments were 4,320,941 bushels for the first half of the month. This month they have been 4,344,507 bushels. The shipments for the full month of September, 1898, were 10,394,000 and for October, 12,962,000.

The total stocks of wheat in store at the head of the lakes amounts to 4,876,465 bushels, an increase for the past week of 979,345 bushels. The wheat stocks here a year ago were 3,896,620 bushels, when the week showed a gain of 68,958 bushels. The receipts of wheat for the week were 3,834,650 bushels. Other grain receipts were as follows: Corn, 44,904; oats, 3,647; rye, 41,001; barley, 97,839; flax, 158,287. The wheat shipments for the week were 2,635,208 bushels. Other shipments of grain were as follows: Corn, 9,898; oats, 3,970; rye, 886; barley, 142,592; flax, 718. Grain in store other than wheat: Corn, 169,353; oats, 71,700; rye, 106,641; barley, 87,855; flax, 235,012 bushels.

The Lake Superior Steel Co. will take possession of the steel plant to be transferred just as soon as the title can be examined. Then the intention is to put into immediate operation such parts as they can. Sufficient money will be expended on the plant to put it into full operation at the earliest possible date. This has been decided upon as the company desires to get its product on the market as early as possible. Later on, changes will be made in the three plants which will enable the Superior plant to be operated at its fullest capacity. Wm. Garrett, of Cleveland, and H. W. Lash, of Pittsburg, have been in the city this week to see what was needed to put these plants in operation with as little delay as possible.

Already shippers are beginning to figure on next season's business, and as it is frequently the case, this market is the first bidder for tonnage. A charter of wheat tonnage at 3½ cents to load wheat here during the first ten days of navigation next spring indicates that the wheat trade is bullish in its views for next season also. A grain freight of 3½ cents is equal to $1.30 a ton on ore. This action on the part of the grain interests is held by vessel interests to mean that the shippers of the northwest are already satisfied that it will be impossible to move the full portion of the crop, which it was intended to forward to the seaboard this fall, and their view of the vessel situation for next year prompts them to offer high freights now, in order to make certain of the capacity which they will need next spring. It means also, it is claimed, that the ore dealers, who will begin to close contracts for next year's output of ore much earlier than usual, will probably be called upon to make allowance for lake freight in excess of $1 a ton on season contracts from the head of Lake Superior.

DETROIT.

Special Correspondence to The Marine Record.

The steamer J. B. Ketcham No. 2 has been sold to A. W. Comstock, of Alpena, Mich., for $50,000.

Mr. Marron, of the firm of Farasey & Marron, Cleveland, also Mr. J. G. Westbrook, of Ogdensburg, visited here this week.

There has been scant water in the river for the past two weeks, and every inch is watched closely in handling the big boats.

Engineer Dixon, of the government works at Ballard's Reef, will sweep for the wheel dropped from the Vega in the Lime Kiln Crossing.

Capt. George McLeod, wrecking master for Smith, Davis & Co., Buffalo, held a survey on the hull of the steamer Buell here this week, the bottom damage was found to be quite extensive.

The fine handy steamer now building at the yards of the Jenks Ship Building Co., Port Huron, will be 257 feet in length, and although there has been some delay in securing steel she will be ready for business on the early opening of navigation next season.

W. G. Jenks has brought suit in the Circuit Court at Port Huron for $90,000 against the Manhattan Steamship Co. of New Jersy, for alleged abandoning of the steamers Runnels and Loyd S. Porter at New York after the Porter had been wrecked to the extent of $20,000

The Detroit Ship Building Co. is one of the busiest industries on the chain of lakes. It always has been a great employer of labor, but these times the yards, dry docks, engine building and boiler works keep a small army of men hustling on new and repair work.

The wreck of the schooner Hunter Savidge, which capsized eight miles off Point Aux Barques, and five lives lost, Aug. 20, has not yet been found, and masters of all steam and sailing vessels passing up or down Lake Huron, are requested to keep a sharp lookout when in that vicinity.

Notice is issued by Commander Kennedy of the Eleventh Light-House District, that the light-house keeper in charge reports that last Sunday morning the tug John Owen, towing a raft of logs, ran foul of the Isle Aux Peches' front beacon, tearing it down and breaking the day mark.

The Craig Ship Building Co. expects to launch the steel ocean-going ship now building within three weeks This will be a sister ship to the Mae, and has been christened the Porto Rico. She is to be completed by November 1, so as to get through the Welland canal before that passage is closed for the season.

Capt. C. H. Sinclair, representing the companies having insurance on the steamer F. R. Buell, says he knows of no intention on the part of the companies to contest payment of the loss on the steamer. She will probably be in the drydock two weeks. It is reported the 20,000 bushels of damaged wheat on the steamer has been bought by a Cleveland firm.

Among the first to take a lesson from the accident to the Houghton is the Northern Steamship Co. When the North Star arrived here on Friday, a force of men was put to work placing new rudder chains in the boat. The change took but a short time and the boat proceeded on her way north. As fast as the Northern Steamship company's boats arrive in Detroit they will receive new rudder chains.

The Lake Erie Asphalt Co., of Toledo, has purchased the steamer Aztec and schooner Miztec and will use the vessels in the upper lake trade. The price paid for the boats was $65,000, and no sooner was the sale closed than Mr. Nagle, of Toledo, who had charge of the deal, was offered $20,000 for the use of the vessels until the close of navigation. The boom in tonnage valuations is due to the high lake freight rates that have prevailed this season.

Marine City has lost one of her brightest and most promising young seamen in the death of Edward P. Crowley aged 20 years. Mr. Crowley contracted a severe cold and went to the Marine Hospital in Ashland from the barge Nasmyth, of the Bessemer line. He remained there about two months receiving the best kind of treatment from the hospital staff. With improving health he returned to Marine City, but suffered a relapse, which terminated fatally. Capt. F. C. Crowley, of Marine City, is brother to the deceased.

A few days ago Assistant Surgeon Eager, of the Marine Hospital Service, examined a pilot for the gasoline launch Fire Fly, on the the Belle Isle circuit ferry. As it is customary for launches of that character to go scooting about the river without either licensed engineer or pilot the matter created some comment among river men. At the office of Inspector Westcott it was found that there is a law requiring that all vessels of above 15 tons burden, carrying freight or passengers for hire, propelled by gas, fluid, naphtha or electricity, be made subject to all the requirements of steamboats as regards inspection of hulls and boilers and the requirements of engineers and pilots.

After several weeks of dickering on the part of the H. W. Williams Transportation Co., of South Haven, who some time ago began a hunt for a side-wheeler to go into the Chicago-South Haven passenger business, the steamer Darius Cole has been sold, and, according to figures given ont, for the sum of $125,000. It was stipulated that the boat should be delivered to her new owners within 30 days, as it was thought that she might be needed for some time yet on her present run. The arrival of the steamer Arundell from her route on Lake Ontario and the St. Lawrence river, makes it possible for the Cole to be delivered immediately, and she will leave for South Haven probably this week. Lake Michigan thus secures a first-class little passenger steamer and at a very moderate cost.

From the report of the St. Clair Republican the test of ths Unique's engines at that town last week was a full success. W. L. Mahon, of Detroit, a mechanical expert, was in charge of the run on the river. Everything worked nicely, and steam was allowed to come up to 220 pounds pressure and the revolutions to 201, which is a speed that carries the Unique more than 20 miles an hour. Mr. Mahon was well pleased with the engine, and expressed the opinion that with 250 pounds of steam the engine would make 230 revolutions per minute, and said he would not be afraid to run the engine 250 revolutions per minute. The Unique is now in first class condition in all respects and ready for business on an hour's notice. The boilers were tested to 375 pounds cold water pressure and did not leak a drop. They are allowed 250 pounds of steam pressure. The engine has been carefully fitted up and tested, and found to be in better condition than ever before.

BUFFALO.

Special Correspondence to The Marine Record.

The Buffalo will start on her maiden trip on Thursday for the head of the lakes.

Wreckers are still at work on the Harlem, ashore at Isle Royale, and they expect to get her afloat without any further mishap.

H. L. Dennis, of the Western Transit line, has been appointed master of the steamer Arabia, succeeding Capt. McCormick, resigned.

We have had a low spell of water here this week and several groundings took place. The steamer Gilchrist had to lighten before she could get away from the Reading coal dock.

The steamer Aztec and consort Miztec will be used in carring the copper sand from the Portage lake district to Toledo. They have been turned over to C. H. Burchinal, of Pittsburg. The sand is used in the manufacture of pavement.

The members of the Buffalo Merchants' Exchange, to the number of about sixty-five, will make the round trip from here to Duluth and return on the North West. This will about wind up the season for these large passenger boats.

The $6 freight allowed the steamer Niko from Ashland was on 203,000 feet of 12x12 lumber. Her freight on 447,000 feet of lumber was $4.25 per 1,000. The Niko's consort, Annie M. Peterson, was allowed $5.50 on 203,500 feet of 12x 12 lumber and 4.50 on 507,000 feet of lumber

The canal boatmen have held meetings to advance the wheat rate to New York. It has been decided that not less than 3 cents will be charged in the future, and other grains will be raised in proportion. The present wheat rate is 2⅝ cents. Two hundred boat owners signed the resolution to advance the Erie canal rates.

Capt. John Mitchell has sold the steel steamer W. H. Gratwick to Drake, Maytham & Co. of this port for $212,500. The Gratwick was built by F. W. Wheeler in 1893 and cost the exact amount for which sold. She will be turned over to her new owners at once. Her net tonnage is 2,213 tons. She was in the package freight trade for a couple of seasons.

A new steel tug now in course of construction at the Union Dry Dock Co.'s yards, will be ready to launch about the latter part of this month. The tug is being built to the order of Charles Person's Sons, and she will be used as a ferry between Black Rock and Grand Island. She will take the place of the tug D. S. Cornell. The new tug's dimensions are 65 feet over all, 15½ feet molded beam, and 8 feet molded depth. Sutton Bros. are building the machinery.

Smith, Davis & Co., report that the damaged grain—amounting to 20,000 bushels—on the steamer Buell, which struck on rocks while passing astern the steamer Houghton when the latter was lying across St. Mary's river, blockading that thoroughfare, was sold at 12½ cents per bushel. The Buell had a cargo of 50,000 bushels of wheat between decks, of which 30,000 bushels were pumped overboard. The vessel carried, besides the grain some flour and shingles, on deck.

C. H. Keep, secretary of the Lake Carrier's Association, says that in his opinion the accident to the steamer Douglas Houghton, will lead to the improvement of the West Neebish channel as soon as practicable. This would provide two good channels at the most dangerous part of the river. The West Neebish improvement has been held back till the twenty-foot channel work could be completed. It is an expensive piece of work, but future blockades of commerce in the Sault river will be done away with.

A serious break occurred in the canal on Monday in the Forestport feeder at a point about one mile from Forestport and just northwest of where the break occurred last year. It is 125 feet long and 40 feet deep and all the water in the feeder has run out. The water runs directly into the Black river and no damage to property has been done. It will take a week longer to repair the break, and the result may be that navigation on this level of the Erie canal may be stopped, as the feeder is its main source of supply. If heavy rains come at once the supply from the Mohawk river and the feeders at Oneida and Oriskany may be increased sufficiently to keep the water up to level.

The lake freights are now out of reach of the lumber market. The rate opened, with the season, at $2 from Duluth to Buffalo, on pine. Last week it went up to $4, and there are now rumors that as high as $5 has been paid. With the added rate that the hardwood dealers must pay, this is about as good as prohibitory, and there are not a few firms wishing very ardently that they had been wise enough in the spring to have bought a few barges. They could have been bought for a song then, for there was a notion that the lake trade had seen its best days. Now it is all changed. Nothing is making money as fast as the lake fleet, and the offerings of rates for next next season are high enough to assure a good profit on even high priced tonnage.

The funeral of Capt. Thomas Fitzpatrick took place on Friday afternoon, from his late home in Mentor. The remains were brought to Buffalo and interred at Forest Lawn cemetery. Capt. Fitzpatrick was born at Buffalo, June 26, 1822, and at the age of nineteen was chief engineer of the side-wheel passenger steamer Cleveland. He was for a number of years chief engineer of the United States revenue steamer John Sherman, and served as local inspector at Cleveland for fourteen years. After leaving the government service he looked after his vessel property until a few years ago, when, by failing health, he was forced to retire from business. He was well known along the lakes and was universally respected. Two children, Mrs. Julia A. Cleveland, of Mentor, and Mr. J. C. Fitzpatrick, agent of the Clover Leaf Line, survive him.

CLEVELAND.

Special Correspondence to The Marine Record.

There is a letter at Capt. Geo. P. McKay's office for Geo. E. Court.

Capt. George Pollock has been appointed master of the schooner Sandusky.

Capt. John Weeks has qualified as master of the schooner Amazon, owned by James Corrigan.

Mr. Robert Curr, consulting shipbuilder and surveyor has opened offices this week in the Wade building.

Capt. H. Hinslea was placed in charge of the steamer V. H. Ketchum this week, vice Capt. R. Pringle, resigned.

Capt. James B. Lowe, formerly in charge of the Presque Isle, will command the new steamer Angeline now being equipped at Detroit.

Drake-Maytham Steamship Co., of Mentor, has been incorporated at Columbus with a capital of $150,000. Drake & Maytham have bought several steamers during the past few weeks.

The Detroit and Cleveland Navigation Co. have had their banner season this year in carrying passengers and cargo. There has always been an increased annual trade but the record for this summer has soared high.

The steel consort John Fritz is in dry dock this week for repairs. She will be given twenty new plates and a new stem to repair the recent collision damage. Mr. Robert Curr will superintend the repairs for the owners and Mr. Jones for the underwriters.

The steamer Joliet, Capt. Charles Henslea, reports the worst trip of the season this week, but, deep loaded with iron ore he kept plugging at it when others had to run for shelter. If ever a steamer paid for her cost, the Joliet must have done it a good many times over.

Lorain finds a shoal place in the harbor and proceeds to dredge. Other ports make a holler for the government engineer to do it It would be just as well to realize that it it is no part of the duty of Uncle Sam to clean out the sewers of a city, even if it is a lake port.

Mr. Jones, representing London Lloyd's, has taken desk room in the offices of Capt. Herriman, Perry Payne Building, and is already actively at work on damage surveys, repairs, etc. There is no keeping British money out of the lake business, and when it is here they want someone to watch it.

There has been quite a change of commands in the Minnesota fleet this week and most of them have been in the line of promotion. Capts. Bailey, Bassett and Talbott have changed around. Manager Coulby, in charge of the vessel interests of Pickands, Mather & Co., is said to be one of the brightest men in that line of work.

The Mills' Dry Dock Co. has been purchased by the Prime-McCurdy syndicate, of Chicago, and the present management will be continued, at least for the present. These interests talked about buying up the Miller Bros.' dry docks, of Chicago, some time ago, but it appears that their first opportunity occurred here.

Barry Bros., of Chicago, who this week purchased the schooner Sophia Minch, on the beach five miles west of Ashtabula, have commenced wrecking operations with a force of thirty men and a complete outfit of pumps and hydraulic jacks. Miles Barry is superintending the work and he expects to have the Minch afloat within a few days.

The report that the Prime-McCurdy syndicate of underwriters had purchased the Mills Dry Dock Co.'s interests at Buffalo is flatly denied from Chicago. It is now said that this is newspaper information only and that there is nothing in it. I first heard that Mr. James Wallace, also Mr. Fitzgerald, of Milwaukee, were in on the deal, but they have not touched it in any way.

A few days ago Capt. George P. McKay, for the Lake Carriers' Association, wired Capt. A. B. Davis of the revenue cutter service, congratulating him on the able manner in which the big fleet was handled in the "Soo" river after the blockade was raised. Capt. McKay received the following reply from Capt. Davis yesterday from the "Soo:" "The testimonial from the Lake Carriers' Association I appreciate very highly."

Mr. Blunt, assistant to the U. S. Engineer, should bridle his tongue somewhat. I have heard a dozen times this week remarks about his mouthings regarding the building and handling of vessels, as if he had nothing else to do. In the case of Mr. Blunt it is something like the tail trying to wag the dog. Cheap surveyors are not required to formulate rules for the guidance of lake tonnage, and when they do, there is likely to be some more guiding done.

In connection with the work of the Y. M. C. A., a class in the study of naval architecture will be organized and instruction will be given during the coming winter. Mr. Henry A. Norton, who has had instruction under Professor Frisbie, of Boston, is the originator of the idea and he has obtained the co-operation of the well-known naval architect, Mr. Joseph R. Oldham, who has promised his services as instructor of the class. The course of study will begin early in October.

The steel cargo steamer Douglass Houghton, docked at Lorain for survey and final repairs, besides the damage done through her consort the Fritz, running into her on the starboard side, there is considerable damage to the bows where the rocks had pounded her, nearly 68 plates, ranging from 12 to 28 feet in length, need repairing, some of them to be renewed entirely. Ninteen new plates, about 50 floors and frames to be faired and renewed, the new plates weigh about 3,600 pounds.

The new steel steamer Malietoa, built to the order of the Minnesota Steamship Co., by the American Ship Building Co., at Lorain, is now on her maiden trip to Two Harbors, for a cargo of coal for a Lake Erie port, The Malietoa is officered as follows: Captain, George Mallory; mate, Hiram Eldridge, of Cleveland; second mate, Charles Hubbard, of Buffalo; chief engineer, Andrew Haas, of Saginaw, second engineer, Edgar Arnold, of Marine City. Capt. Mallory always takes charge for the first few trips, after that another master is usually appointed.

An engineer in Tunis has invented a deep-sea diving apparatus, which has been tried without accident at a depth of 174 feet, near Cherbourg. The inventor declares his purpose of searching for the hull of the Alabama, which lies where she was sunk by the Kearsarge, off Cherbourg harbor.

A contract has been closed by the American Ship Building Co., of Cleveland, for the construction of a steel steamer for Mr. W. C. Rhodes, of Cleveland. The vessel will engage in the iron ore carrying trade. This vessel will be the twelfth which the shipbuilding company has contracted to deliver this year.

The navigation bureau of the navy has issued a list of vessels of the United States navy of all kinds, making the surprising showing of 312 craft. This includes many small vessels and craft captured in Cuba and the Philippines, but the showing is, nevertheless, remarkable in comparison with the naval list of two years ago.

CHICAGO.

Special Correspondence to The Marine Record.

The life-saving station at the Lake Michigan entrance to the Sturgeon Bay canal has been shifted in order that the channel may be widened at that point.

Capt. James Reid has succeeded in removing what remained of the wrecked steamer Harvey Tuttle, at Michigan City. He received $5,500 for the work.

Work on the harbor approaches at Holland, Mich., is progressing rapidly, and will be completed before the close of navigation. The work cost nearly $50,000.

Capt. Peter Barry will build a tug at Manitowoc during the winter. He is now engaged in recovering the engines of the tug Ira O. Smith, which will be placed in the new boat.

Chicago public and private elevators now contain 19,697,000 bushels of grain as follows: Wheat 11,677,000 bushels, corn 3,569,000 bushels, oats 4,112,000 bushels, rye 258,000 bushels, barley 81,000 bushels.

A representative of the Carnegie iron interests visited Chicago last week, with the view of buying four large steel vessels, three steamers and a tow barge, owned by a local syndicate. His mission proved unsuccessful.

Capts. J. A. Calbick, of Chicago, and Joseph Kidd, of Duluth, who were called to hold a survey on the steamer Peerless, at West Superior, unite in saying that the timbers of the steamer's hull are perfectly sound, and that no repairs will be necessary outside of the collision damage.

Capt. John G. Huff, of this port, died last week, aged 81 years, and was buried at Coal City, Ill. Capt. Huff was one of the oldest of lake vessel masters, and had a large acquaintance. He brought many of the men prominent in the early days to Chicago by the water route from Buffalo. He quit sailing only four years ago.

Fourteen east shore harbors have been dredged to various depths this season by the Green Dredging Co., of Chicago, working on government contract. The ports improved were Charlevoix, Frankfort, Portage Lake, Manistee, Ludington, Pentwater, White River, Muskegon, Grand Haven, Black Lake, Saugatuck, South Haven, St. Joseph and Michigan City.

The office of the Independent Tug Line has been closed and there is now but one tug office in Chicago. The tug trust will continue the tug office of Hausler & Lutz at South Chicago the same as before the line was purchased. Capt. Pete Barry will build a tug at Manitowoc during the winter. He is now engaged in recovering the engines of the tug Ira O. Smith, which will be placed in the new boat.

Lumber freights at Marinette have been advanced 25 cents. Owing to the scarcity of cars the lumber men are taking boats freely, and would take more if they were available. The rate to Chicago from Marinette is $2, and to Buffalo $3 per 1,000 feet. The average advance in lumber prices at Marinette as compared with those of a year ago is $3 per 1,000 feet, while lath has advanced 200 per cent.

The report is around here that Chicago underwriters have bought up a new dry dock business at Buffalo and that damage repairs will be made there at the lowest possible charges. I learn from the best authority that there is nothing in the rumor, at least, so far as regards the underwriting business established at this port, furthermore, underwriters are not ship repairers, spar makers or oakum drivers.

It would seem to the man on the dock that Lake Michigan has for two seasons been gradually rising, until at present the water has reached a stage not equaled for many years past. It is estimated that there has been a rise of several inches in the last year, and what is more, there are indications that the limit has not yet been reached, though the rise is extremely gradual. For the several year prior to 1897 Lake Michigan was far below its normal stage, and at one time this fact was the cause of much inconvenience and some apprehension to vessel men.

Capt. Miles E. Barry, of Chicago, paid Milwaukee a visit yesterday. In the course of conversation he stated that he had effected a sale of stock in the Great Lakes Towing Co., which had been accepted as part payment for the Independent line tugs at Chicago. Mr. Tener, of Pittsburg, bought the stock at its par value. Capt. Barry also intimated that a line of tugs might soon be established at Chicago, to run in opposition to the Great Lakes Towing Co. This indicates that Capt. Peter Barry's tug, to be built at Manitowoc, will constitute part of the new line.

William H. Meyer, of Milwaukee, guessed right when he held on to the Neosho this season. The story goes that the Tonawanda Steel and Iron Co., after having bought the steamers Veronica and Amboy, also entered into negotiations for the purchase of the Neosho. The price asked for her was $65,000. This the Tonawanda Co. announced its willingness to pay provided Manager Meyer would assume the cost of needed dry docking and minor ship-carpenter work, amounting to several hundred dollars. The proviso nettled Mr. Meyer, who thought he had gone low enough in fixing a price on the steamer, and a letter declaring the deal off was promptly mailed to the Cleveland agents of the Tonawanda Co. The sum of $85,000 has since been offered for the Neosho and refused.

ANOTHER of the vessels taken from the lakes last year to engage in the coast trade on the Atlantic was wrecked last Monday. The schooner Penokee, bound from Norfolk, Va., to Saco, Me., foundered on Romer shoal near Sandy Hook. Her crew escaped.

LAKE SUPERIOR—ST. PAUL CANAL.

The proposition to build a canal from Lake Superior to the Mississippi river is pronounced by the United States engineers to be feasible, but not a matter of urgent public necessity. This is the summary made by Major Clinton B. Sears, Corps of Engineers, U. S. A., Duluth, Minn., on the examination made under his direction by Assistant Engineer John Krey. At the last session of Congress an examination and survey was ordered of proposed routes of a canal to connect the Mississippi river with Lake Superior, to determine which route is the most feasible and the cost of construction, operating and maintaining such canal. Major Sears' report has been received at the War Department, together with Engineer Krey's analytical statement, covering 24 pages of typewritten matter, with innumerable tabulations of figures. The summary of the conclusions by Engineer Krey on this project are made by Major Sears as follows :

First—That a canal from Lake Superior to the Mississippi river at the mouth of the St. Croix river, 40 miles below Minneapolis, such canal to be 80 feet in width at the water line, 59 feet in width at the bottom and 5 feet in depth on the miter sills of the locks and lifts, is entirely feasible.

Second—That such a canal will be about 210 miles in length and will cost about $6,012,500.

Third—That the cost of operation and maintenance will be about $350,000 per annum.

Fourth—That owing to the existence of four well-equipped and competing lines of railroad, parallel and near to the same commercial terminal, with the prospect of several more railroads to be built within a few years, to shortness of the navigation season in this latitude, due to long and severe winters, to the longer route and much longer time of transit for freight, the economic value of speed and transportation, and to the cost of the canal, to the benefits to be derived, the construction of the canal cannot be called an urgent public necessity.

In closing this summary, Major Sears says: "In these views of Mr. Krey I fully concur, and give as my opinion that this improvement should not be undertaken by the government."

Surveys and examinations were made by Engineer Krey on only two routes, although reference is made to other routes that have been considered in the past. In the present examination $10,000 were expended in investigating the route from Allouez Bay, Brule river, and also a route along the St. Louis river, East Savanah river, La Prairie river, and Sandy Lake to Upper Mississippi. The engineer says the first route is 210 miles long, the summit level 416 feet above Lake Superior, 351 feet above the Mississippi at its confluence with the St. Croix, giving lockages up and down 767 feet, to be accomplished by 24 locks, the highest estimated cost of construction being $7,050,000. The other route has a length of 94 miles to the river 300 miles above St. Anthony Falls, to which the river descends 417 feet, summit level 634 feet above Lake Superior, lockages up and down 600 feet, 32 locks required, cost $10,575,716.

In his review of the first or more feasible route, the engineer mentions the excellent harbors of Duluth and Superior, and the country through which the canal would pass and that no bridges will be required. No physical impossibilities are found by the Allouez Bay and Brule river route, and while the elevations are great, they may be overcome by using the Dutton pneumatic lifter, which, he says, is in successful operation on the German canals. Traffic on the proposed canal, the engineer says, would have to be conducted by canal boats, of four feet draft, length, 160 feet, 30 feet to 34 feet wide, each costing $3,400, or open coal barges to cost $800 each. Speed of six miles an hour could be obtained in slack water, and four miles in waters above Taylor's Falls. The estimates of possible traffic are based upon from 35 to 65 per cent. of the coal, wheat, other grains, flour and merchandise between St. Paul-Minneapolis and Duluth-Superior, or about a million and a half tons of wheat, flour, etc.; and a million tons of coal and merchandise. Figures are given on present railway rates on anthracite coal, Duluth-Superior to St. Paul, $1.75 a ton; bituminous coal, 75 cents; flour, $1.40; merchandise, $1.50. The engineer gives the annual cost per ton of probable traffic, 17½ cents; total estimated cost of probable transportation, 59 cents per ton. He says: "The practicability of the enterprise seems probable, and while commercially it may be of importance, even though it should carry but 25 per cent. of the traffic, drawbacks, such as the shortness of season, make it doubtful if reductions in rail rates would last the year round."

Engineer Krey says it will take two years and cost $60,000 to make the surveys, bearings, gaugings, plans, etc., necessary to determine special, and not the general type, of construction.

TREASURY DECISIONS.

DOCKING OF VESSELS.

Owners or agents of vessels placed on dock for repairs must notify local inspectors of the district.

TREASURY DEPARTMENT, Sept. 6, 1899.

GENTLEMEN: Referring to your letter of the 2d instant, with inclosures relative to your failure to notity the local inspectors at New York of the dry docking of your steamship Concho, and of the inspector's demand, because of such failure, that the ship should be redocked, you are informed that the Supervising Inspector-General, Steamboat Inspection Service, will inform the local inspectors in this instance to waive their demand if satisfied otherwise, that the ship is in suitable and safe condition.

In giving such instructions, however, it is not the intention in any way to reflect upon the action of the local inspectors in this case, who, in making the demand they have upon you to redock the steamship Concho, have simply acted in the proper performance of their duty.

The failure of the master of the steamer to notify the inspectors that the steamer was going on the dock in time for them to examine her, was a violation of section 5, Rule VI, of the Board of Supervising Inspectors, which rule has all the force of statute law, and reads as follows:

"Whenever any steam vessel is placed upon the dock for repairs, it shall be the duty of the owner or agent to report the same to the board of local inspectors of that district, so that thorough inspection may by them be made to determine what is necessary to make such vessel sea-worthy, if the condition or age of the steamer, in the judgment of the inspectors, renders such examination necessary."

Referring to your statement that the steamer Concho is "comparatively new and is in as near perfect order as she can be made," you are informed that while the Department unhesitatingly accepts such statements as being in accordance with the facts, the law and the rule quoted requires that the local inspectors shall exercise their own judgment in such matters before they can be compelled to issue a certificate of inspection, and this Department will feel compelled to maintain the lawful rights of the inspectors in any similar cases that may occur hereafter.

Respectfully yours,

O. L. SPAULDING, Assistant Secretary,

C. H. MALLORY & CO., New York, N. Y.

NOTICE TO MARINERS.

UNITED STATES OF AMERICA—NORTHERN LAKES AND RIVERS—NEW YORK.

TREASURY DEPARTMENT,
OFFICE OF THE LIGHT-HOUSE BOARD,
WASHINGTON, D. C., Sept. 13, 1899.

DUNKIRK PIERHEAD LIGHT STATION.

Notice is hereby given that, on or about September 15, 1899, this fixed red lens-lantern light will be transferred 25 feet N.E. ½ N., from the open frame structure on the easterly end of the west breakwater to the structure now being erected upon the masonary pier at the channel end of the breakwater.

The new structure will be an inclosed framework, having a square base with vertical sides one story high, from which rises a square pyramid surmounted by an octagonal lantern, with a red roof, and surrounded by a balcony with black hand rail. The base of the structure will be painted brown, the upper part white.

The light will be visible from all points of approach from the lake, from E.S.E. ⅞ E. to N. by W. ½W.

There will be no change in height of the focal plane, the characteristic or the geographical position of the light.

By order of the Light-House Board :

FRANCIS J. HIGGINSON,
Rear-Admiral, U. S. Navy, Chairman.

LIGHT-HOUSE ESTABLISHMENT,
OFFICE OF THE LIGHT-HOUSE INSPECTOR, 9TH DIST.,
CHICAGO, ILL., Sept. 16, 1899.

Notice is hereby given that a rock has been discovered southeast by south one-third mile from Lansing Shoal gas buoy, least depth of water, 15 feet.

A buoy will be placed to the southward of the rock as soon as practicable.

By order of the Light-House Board :

F. M. SYMONDS, Commander, U. S. N.,
Inspector 9th Light-House Dist.

LIGHT-HOUSE ESTABLISHMENT,
OFFICE OF THE LIGHT-HOUSE INSPECTOR, 9TH DIST.,
CHICAGO, Ill., Sept. 19, 1899.

Notice is hereby given that a red spar buoy has been established near a rock (with but 15 feet of water on it) S. E. by S. (true), about one-third of a mile from Lansing Shoal Gas Buoy, Northerly end of Lake Michigan.

By order of the Light-House Board.

F. M. SYMONDS,
Commander, U. S. N., Inspector 9th Light-House Dist.

SHIPPING AND MARINE JUDICIAL DECISIONS.

(COLLABORATED SPECIALLY FOR THE MARINE RECORD).

Collision—Weight of Evidence.—Where the positive testimony of two witnesses that an approaching vessel changed her course just prior to a collision is uncontradicted, a court is not authorized to reject it merely because no particular reason appears why such change of course should have been made. The Mary Buhne, 95 Fed. Rep. (U. S.) 1002.

Seamen—Liability of Officer for Assault—Right to Enforce Obedience.—Prompt obedience by the crew of a ship to the commands of the officer on deck is essential to the safety of the vessel, and may be enforced by the officer, even by blows, when necessary; and a court will not hold him liable in damage therefor, where he uses no weapons, and there is no evidence of malice, or excessive punishment. Stout vs. Weedin, 95 Fed. Rep. (U. S.) 1001.

Sailing Rules—Vessels Crossing.—A change of course by one of two approaching vessels after they come within view of each other, by which a danger of collision is first created, may make it the duty of the other vessel under the sailing rules to keep out of the way, though, had the original courses been maintained, she would have been entitled to the right of way. The Mary Buhne, 95 Fed. Rep. (U. S.) 1002.

Loss of Baggage—Limited Liability Act.—Baggage delivered by the purchaser of a ticket for passage on a steamer to the agent of the vessel to be placed on board, and which had been placed on a wharf boat to which the steamer was moored, where it was destroyed, together with the wharf boat and steamer, by fire, caused without the privity or knowledge of the owner, had been "shipped," within the meaning of Rev. St. § 4283, and the loss is covered by the limitation of liability therein provided for. In re Louisville & C. Packet Co., 95 Fed. Rep. (U. S.) 996.

Shipping—Master—Right to Sell Cargo.—A ship encountered such a storm that she sprang a leak, and returned to port for repairs, where the cargo was unloaded and stored, when ready for sea, the master refused to re-ship certain coal which formed part of the cargo, and had become wet, because of its great liability to ignite spontaneously, owing to its dampness. On the shipper's refusal to receive it, the coal was sold by the master for much less than its value. Held, that he had the right to sell it, under the circumstances, for the good of the ship and cargo, and the ship was not liable for its nondelivery. The Brewster, 95 Fed. Rep. (U. S.) 1000.

Construction of Charter—Freight Payable on Quantity Intaken—Jettison.—A charter of a vessel to be loaded entirely with coal for a given port, which provides for the payment of freight at so much per ton on the "quantity intaken," is in the nature of a lump-sum charter, and binds the charterer for the payment of freight on the entire cargo intaken where any part of it is delivered, though a portion was jettisoned during the voyage. This construction is not affected by the agreement of the ship for delivery of the cargo, sea perils excepted, nor by a provision that the freight shall be payable on proper evidence of "right delivery of the cargo," since that means no more than delivery in accordance with the charter, by which losses by sea perils are accepted. Christie et al., vs. Davis Coal & Coke Co., 95 Fed. Rep. (U. S.) 837.

Damages for Abusive Treatment.—Libelant, while cook on a schooner, during an altercation, was assaulted by the captain, and, on freeing himself, seized an ax, with which he inflicted a wound on the captain's hand. He was seized and placed in irons by the captain's order, and thrown down a hatch, where he was chained and kept a prisoner for about 10 days, and then released and discharged. He was handled with unnecessary roughness, by which one of his ribs was broken, and he received other injuries, none of which were given any attention or care during his imprisonment, and from which he was disabled and suffered for some time thereafter. Held, in a suit in rem to recover wages and damages, that while, under admiralty rule 16, he could not recover for the assault and battery, he was entitled to his wages, and damages for the failure to give him proper care after injury, but, in view of his being also in fault, such damages would be limited to $200. The Fred E. Sander, 95 Fed. Rep. (U. S.) 829.

Shipping—Construction of Charter—Commissions.—A charter party provided for the payment of a commission on the estimated gross freight to the charterer and the brokers, half each, "on the completion of loading, or should vessel be lost." The vessel was described in the charter as "now reported as per list New York, March 2nd, for Shanghai." In a suit to recover the commissions it was shown that she arrived at Shanghai, discharged her cargo, and started in ballast for the designated port of lading under the charter. Held, that the commission could not be considered as merely a rebate from freight, since half of it was payable to the brokers, and that, it being shown that the vessel was in existence when the charter was made, and that she left Shanghai in pursuance of the charter, the contract then came into operation, and her loss at sea thereafter was a loss within the terms of the charter, which rendered the owners liable for the commission. Portland Flouring Mills Co. vs. Weir et al., 95 Fed. Rep. (U. S.) 997.

RUSH-BAGOT AGREEMENT—A CANADIAN VIEW.

The question of abrogating or modifying the restrictions on building warships on the lakes is one in which the American Ship Building Co. is now chiefly interested. The arguments for such modifications are familiar to all readers of the MARINE RECORD.

The Toronto Mail and Empire recently presented the objections as they appear to Canadian eyes, and those objections have been urged with some effect upon the Canadian commissioners. Taking as its text the unconfirmed report that the Canadian representatives have agreed to the use of the Canadian canals by United States warships built for the United States Navy by lake shipbuilders, the Mail and Empire says:

"With reference to the canals, Canada is doing splendidly by the United States already. Our neighbors get the use of our waterways for which we are taxed, on equal terms with our own people. The Washington treaty of 1871 promised that we should receive in return the equal use of the United States canals. The Sault canal, which we do not need now, is open to us, to be sure, but the State canals are closed. By the state officials we are conceded, in accordance with the understanding, the right to navigate these waterways; but the moment a Canadian vessel enters the locks the federal government, which engaged to use its influence to secure us the use of the canals, steps in with its customs law and requires our vessels to unload before they can move another foot. Thus, the makers of the treaty, by their own act, abrogated the reciprocal concession they had engaged to secure for us. If our commissioners wish to "settle" a canal question let them settle this one. The extension of the use of the St. Lawrence and the Welland canals to naval vessels is a new grant, not contemplated by the old treaty. What we are to get in return we do not know, and do not much care, for there is really nothing that Washington can give in the nature of an equivalent. Let us consider the arrangement completed. At once the cruisers and torpedo boats are laid down in the lake shipyards. Of course, we know that they are to pass out to the sea; but they can always be there in sufficient numbers—just awaiting the guns and final touches—for use on the lake or against our cities and towns in an emergency. It may be said that a like condition could be reached even without the new concession. This is possible, but not probable. At all events, the existing understanding would militate against it. But suppose a crisis were to arise between Great Britain on the one hand and the United States on the other. Let us hope this will never occur. In such an event, however, the initiatory move of the United States would no doubt partake of the occupancy of the approaches to the canals with a view to ultimate control. It would yet be a time of peace. Our next door neighbor, under the proposed arrangement, would be entitled to send their ships into or in the neighborhood of the canals under the pretext either that they are on their way out or that they are going in for repairs. We could not stop them, and if we attempted to do so it would be a casus belli, and would precipitate the very troubles that the diplomats would be trying to avert. If, in order to keep the peace, the occupancy of strategical positions by the vessels were not prevented, where would we be should it happen that a peaceful solution were found impossible? What defense would there be for our border cities and towns? What protection for our commerce on the lakes?

Of course, nobody expects difficulties. But while our neighbors do not anticipate trouble any more than we do, we notice that they are not giving special invitations to even their best friends to establish basis of operations or to take up strategical positions along their coasts. They are wise. Our commissioners ought to have worldly wisdom also. They should look at the question with the very best of feeling towards the United States, and with a feeling a trifle warmer towards Canada, and should insist that the Great Lakes, dedicated for nearly a century to peace, and kept entirely free from warlike machinery, should thus continue forever. In fact, the delightful sentiment of Anglo-American friendship now prevailing is even greater reason than the possibility of trouble in years to come why the existing arrangements should remain untouched. If a treaty cannot be secured without a provision imperiling this country we can do without one."

SUIT FOR PERSONAL DAMAGES.

In Toronto on Saturday the Master in Chambers made an order on the application of the defense postponing the trial of an action for $1,500 damages brought by George Shaver, of Prescott, against James Davidson, West Bay City, shipbuilder and vessel owner, till January next, when it will come up at either Ottawa or Toronto. The order was applied for on the grounds that a number of witnesses for the defence are at present sailing on the upper lakes, and cannot be secured in time for the Autumn Assizes, now in session.

Shaver was an employe of the Prescott Elevator Company, and Davidson is the owner of the grain barge Nicaragua. On the night of November 16th, 1898, Shaver was engaged in unloading the boat at the Prescott elevators, when he walked through an open hatchway, and received injuries which not only sent him to the hospital for three months, but rendered him unfit to work ever since. He claims that the owner of the boat was guilty of negligence in leaving the hatchway unguarded, and in failing to have lights placed that he might see where he was going.

The plantiff contends that the barge was in hands of the elevator company at the time, and that he was therefore relieved from all responsibilities.

THE POLE STAR A TRIPLE SYSTEM.

Prof. Campbell, through the great telescope, has definitely ascertained that Polaris, popularly known as the North Star, is realy a triple system. Two of the bodies in this system revolve around each other in a period of four days, and at the same time move in a much wider sweep around the third body, in much the same way as do the stars and the moon around the sun.

The separate bodies which compose the system cannot be seen with the telescope, nor is it likely that they will ever be seen by any instrument. Their existence is determined by the spectroscope. Quite a number of similar cases are known, fourteen of which, including the brilliant binary star Capella, have been discovered at the Lick Observatory. Polaris now, however, is the most interesting of these. The velocity changes by a period of three days and twenty-three hours by about six kilometers, or nearly four miles per second. The longest period of the change had not as yet been determined, so it may amount to several years.

LOSS OF LIFE AT SEA.

The annual report of the Supervising Inspector-General of Steamboats, which has just been made public in the form of an abstract, contains a highly interesting exhibit of the number of lives lost at sea from American vessels during the last calendar year, together with other important corelated information. It appears from this document, that the total number of persons drowned, or who came to their death in other ways, was 404, which is a considerable increase over the previous year, when the aggregate of fatalities was 123 less. This increase was due to the foundering of the steamer Portland off the Massachusetts coast during the great gale on the night of November 27, 1898. Every one of the 127 persons on board perished.

Of the total of 404, 86 fatalities were chargeable to accidental drowning, 213 persons went down with wrecks, 13 succumbed in fires, 31 were killed in collisions, 24 were the victims of explosions or of accidental escape of steam, and in 37 cases miscellaneous causes were reported.

The chapter on destruction of vessel property shows that 48 steam vessels met with accidents, 7 had fires, 13 were in collision, 8 experienced a breaking of steam pipes, 2 had explosions, and 18 encountered snags and wrecks or developed leaks. As the duty of the Supervising Inspector-General's office is to ascertain whether steam vessels have complied with all the safety requirements in the matter of life-saving appliances and relative to the condition of boilers, the report may be considered a favorable exhibit. The destruction of the Portland was not due to laxness on the part of inspectors, but to the recklessness of her captain, who insisted on putting out to sea in the teeth of a fierce storm.

Except for this disaster, the loss of life would have been comparatively small. Only two vessels were damaged by explosions—an excellent record considering the extent of steam water traffic.

PRESERVATION OF LAKE LEVELS.

In the MARINE RECORD of Sept. 7, there is an interesting article on the "Preservation of Lake Levels," by H. von Schon, chief engineer of the Michigan Lake Superior Power Co., of this city. It was written in compliance with the request of the editor of the MARINE RECORD for Mr. von Schon's views on the important subject. Mr. von Schon is heartily in accord with the agitation for the maintenance of lake levels.—The Sault Ste. Marie News, September 16.

NOTES.

THE well-known steamer Sarah A. Jenks, which plies daily between New York aud Sing Sing, received a pair of Roberts boilers, of 700 horse-power, in March, 1898. Her owners report that she has never lost a trip on account of the boilers up to this time, and that the same coal which formerly lasted twenty-six to twenty-eight days now runs her for about seven weeks. The boilers were sold on six months trial and a check was handed to The Roberts Co. at the expiration of that time with thanks from the purchasers.

THE Michigan-Lake Superior Power Co. proposes to build a plant sufficient to develop 60,000 horse-power. The company has acquired a large amount of real estate bordering on the banks of the river near the rapids. The prospectus issued by the company authorizes the statement that contracts for power at the "Soo" which have already been executed, are at figures fully 33 per cent. below those at Niagara and other large water powers. The company has already leased power to tenants for a period of 25 years.

SENATOR MORGAN, of Alabama, is quoted as saying that he believed Manila would soon be the Liverpool of the East. He spoke of large quantities of cotton which had been shipped already to Manila, and added: "This is just the beginning. Instead of sending our Southern cotton to Liverpool, there to be unloaded, manufactured and reshipped through the Mediterranean and Indian Ocean to the Orient, with constant charges for brokerage, insurance storage, etc., we will ship our cotton direct to Asia. Two-thirds of the cotton consuming population of the earth live in Asia, and Manila is the door through which we can reach them. We can develop our own trade, and we need not depend upon Liverpool to fix the price of cotton. We can make Manila and not Liverpool, the principal market for our Southern cotton, and open up to our section an era of prosperity almost beyond conception."

A CONSULAR report, just published, dealing with Port Said and Suez, gives some interesting information with respect to the affairs of the Suez canal. It is stated that 3,503 vessels, with 220,000 passengers, passed through the canal in 1898, the aggregate net tonnage being 9,238,603. Of these 2,623 were merchant ships, 719 mail steamers, and 161 warships and transports; 2,295 were British, 356 German, 221 French, 193 Dutch, 85 Austro-Hungarian, and 46 Japanese. The export of cereals from India to England, which had fallen to 29,000 tons in 1897, rose to 484,000 tons in 1898, while coal from England for India rose from 598,000 tons to 666,000 tons. Indeed, the general improvement in India led to an increase of 1,000,000 tons of shipping (3,688,000 tons to 4,686,000 tons) between that country and Europe and America during 1898. Trade with the far east also increased by 160,000 tons. Sixty-one new vessels, aggregating 190,000 tons, have been added to the regular steamship lines using the canal. The receipts for 1898 were higher than for any previous year, the nearest approach being made by the receipts for 1891. Great Britian still leads the way easily both in the number of ships, and their tonnage. Great Britain showed 2,295 ships, and 6,297,743 net tonnage in 1898, out of a total of 3,503 ships and 9,238,603 tons.

THE Lidgerwood Mfg. Co., of New York, whose hoisting engines and cableways are well known throughout the U. S., have constructed a special form of cableway adapted for coaling vessels at sea, in which the Navy Department has shown considerable interest. A contract has been entered into by the Navy Department and the Lidgerwood Mfg. Co to equip the collier Marcellus with one of these sea coaling cableways, and a board of naval officers will try the device at sea. Acting Secretary Allen has ordered the collier Marcellus to be towed from Norfolk to the New York Navy Yard, and upon the arrival of the vessel, the Lidgerwood Company will immediately install their apparatus. The work of the installation will be under the direction of Naval Constructor Bowles. In this device, the warship may take the collier in tow, or the collier may take the warship in tow, leaving a space between the ships of 300 feet. Elevated cables, leading from the mast head of the collier to shear poles on the warship, serve to support and propel a carriage, from which hang bags of coal. The coal is elevated from the deck of the collier, transferred to the carriage at the mast head, and propelled across the intervening space at a speed of 1,000 feet per minute. The arrangement for compensating for the lurching of the vessels in seaway is exceedingly ingenious, and having been tested on a small scale, leaves little doubt as to the working of the appliance at sea. Coaling can be carried on while the ships are moving ahead.

MARINE RECORD

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CLEVELAND, O., SEPTEMBER 21, 1899.

COMBINATION of interests being the order of the day would it not be an economy for the most prominent men interested in lake shipping to build, equip, class, own, manage, underwrite and repair all lake tonnage? Keep everything in a private commercial and industrial circle as it were. After all, if a thing is to be done, you have to do it yourself.

EXTENSIVE hull damage is reported through vessels carrying untrimmed cargoes of iron ore, and this feature is likely to become more marked during the fall months. It would be well for owners, managers and masters to consider that their vessels are not exactly like stationary warehouses having a concrete and pile-driven foundation. Ill treatment and repeated punishment soon shows on a vessel's hull, if nothing worse.

"Engineer Blunt" "Says Boats Are Being Built Too Large." "The Government Will Have To Limit Their Size." "Hoggishness On The Part of Boat Owners is Causing All The Trouble." Now, if Assistant Engineer Blunt is not too totally blunt, we don't know what brusqueness, amounting to downright incivility and incomparable denseness means. However, we think we do. Moreover, the RECORD cannot resent too strongly the gross imputations placed upon shipbuilders, as well as owners, managers and masters of vessels. The principal traffic in and out of Lorain is carried on by the Minnesota Steamship Company, and the manager of that fleet is considered well balanced mentally and physically, rather than hoggish, furthermore, we do not think that the government will "have" to ask Mr. Blunt's suggestions, nor do we opine that shipbuilders will accept his plan for 350-feet boats on a draft of 16 feet, but will ignore Mr. Blunt's bluntness by bluntly refusing "to accede to his demands." Upon what meat does this, our Ceasar, feed?

IN the efforts of the RECORD to have an International Commission appointed whose province it would be to maintain lake levels, a certain feeble and narrowminded source has rather significantly mentioned the construction of the power canal at the "Soo," and attempts to enter into the discussion by stating that no action will be taken in interfering with that work. In justice to all interests, national and international, as well as industrial and commercial, we may state that our campaign re-lake levels, is not directed against any project in particular, and least of all in relation to the "Soo" power canals, Michigan or Ontario. We would like to see the power of Niagara developed at every possible point on the lakes, and cheerfully enter into the support of all such projects of advancement, only, the lake levels must be maintained. There must be nothing inimical to the general interests in the action of private corporations, municipalities, states, or national projects, and to this end is an adequate commission required to deal with these subjects, as they arise from time to time.

THE SPLENDID SHIPPING OF THE LAKES.

A remarkable spectacle was witnessed a few days ago, after the wreck of the Houghton had been removed from the Sault Sainte Marie—an accident which had occasioned a temporary blockade of the "Soo" passage. A procession of delayed vessels, estimated to be forty miles in length, passed in a continuous and unbroken line into the waters of Lake Huron. These vessels carried large shipments of general merchandise, flour and Western produce, besides 900,000 bushels of wheat, 300,000 tons of iron ore and 11,900,000 feet of lumber.

Such a spectacle as this illustrates in a thrilling and picturesque way the imperial commerce of the Great Lakes and the magnitude of the merchant marine fleets gathered on our inland seas. Our ocean-carrying trade is not what it once was, but the commerce of our lakes is alone large enough to give us high rank as a great maritime nation.

The outside world knows little of the internal trade of the United States, and, indeed, there are very few Americans who have an adequate idea of the splendid array of shipping to be seen in our Northwestern waters. The number of vessels which pass through the Suez canal is insignificant in comparison with the vast army of ships that utilize the "Soo."—Baltimore Morning Herald.

OSWEGO KICKS.

The Delaware, Lakawanna & Western Coal Co., has orders for the shipment of 200,000 tons of coal westward from Oswego, N. Y. but cannot secure vessels to carry it. Mention of this fact has drawn the following article from the Oswego Palladium:

"It is a fact that less tonnage is coming to Lake Ontario at present than in many years and that the tolls on the Welland canal is the bar. The Montreal Transportation Co. is receiving but little grain compared with that handled in years past. The same is true of the Ogdensburg route. The Central Vemont boats are finding but little grain for shipments that way. The situation is this: The Canadian Pacific Railroad Co. has established a station at Georgian Bay. Grain is received at the company's elevators there, spouted into grain cars and sent via rail to Montreal and loaded into steamers. This beats the Kingston route because of the fact that it is shorter and there are no canal tolls or charges to be paid. When the steamers brought coal to Kingston they would come to Oswego for coal for the western shipment. Now that they do not come to this lake there is no opportunity to ship coal from Oswego, and consequently the Canadian government has lost a business that they at one time collected a considerable amount of tolls on. With a free Welland canal the Georgian Bay route could not exist and Kingston, Prescott and other river towns that have lost business to the Canadian Pacific route would find it restored. The rate on coal to Chicago is $1.50. It would not be a hard matter for vessel owners having the tonnage to offer to secure $1.75. This is the highest rate paid on coal from Oswego to Lake Michigan in many years."

DEVICE FOR LIFE-BOATS.

The latest device in the way of life-saving apparatus appears to be due to the ingenuity of E. S. Norris, a London inventor, its application to rendering boats unsinkable having been successfully proved by trials made at St. Catherine's docks, London. If the invention is to be applied to a lifeboat already fitted with water-tight compartments, those spaces are filled with an indefinite number of closed tubes, each one a few inches long and made of some strong impervious material like waterproof paper. But a boat with such compartments is not necessary, as the little cases can be held in a canvas band nailed along the sides of an ordinary rowboat, and render it quite unsinkable. The principle can also be applied to life-belts and buoys—replacing the cork ordinarily used—and with much less cost.

ANOTHER ROLLER BOAT.

Mr. Graham Moon, of the Postoffice Department, Ottawa, Ont., will, if all goes well with his model, be rolling up and down the Ottawa river in a roller boat of his own invention. Mr. Moon has long made a study of naval architecture, being the son of an English admiral, and having followed the sea for some years before settling in Canada. Naturally, therefore, he followed the fortunes of the Knapp cylinder with the interest of an enthusiast. He was not slow to detect the structural and mechanical defects of that craft, so he proceeded this summer to work out his theories of a revolving hull on altogether different lines. As a result he has all but perfected a roller boat which involves the distinct departure from any of the existing types.

In fact, he has evolved a mechanism by which the resistance of waves in a head sea is utilized to assist rather than retard the forward motion of the hull.

It was demonstrated in trial trips of the French roller ship, which consists of a hull mounted upon three iron cylinders, that greater speed effects were obtained by applying a portion of the power to the revolution of the cylinders than by adding the same extra power to the propeller, or paddle which drives the vessel. To what extent Mr. Moon had availed himself of this principle is, of course, only a matter of conjecture, for the secret of the invention is being closely guarded.

The model, which is 24 feet long and from 8 to 10 feet in diameter, is being constructed in an Ottawa machine shop. The cylinder is of iron and very neatly put together. It is expected the new roller boat model will be ready for trial in a few weeks.

LAKE FREIGHTS.

Iron ore, Duluth to Lake Erie ports, is still quoted at $2. Escanaba to Buffalo $1.50 and to Ohio ports $1.35. Marquette shows no chartering for free tonnage during the week.

The grain market is slow and freights have slumped all round, Chicago is now down to 3¼ cents on corn though ½ cent better was paid during the week. Duluth to Lake Erie is light at 5¼ cents and 5 cents offered.

There is a brisk demand for coal tonnage, Ohio ports to Lake Michigan $1, 50 cents to Duluth, and 10 cents better from Buffalo.

Lumber, Duluth to Chicago, $5 per M. feet. Lake Michigan rate from $1.75 to $2.

MARINE PATENTS.

Patents on marine inventions, issued Sept. 19, 1899. Reported specially for the MARINE RECORD. Complete copies of patents furnished at the rate of ten cents each.

633,171. Screw-propeller. A. R. Weisz, New York, N.Y.

633,184. Tangential water-wheel. W. A. Doble, San Francisco, Cal.

633,294. Towing system for canal-boats. L. P. Perew, Tonawanda, N. Y., assignor to Helen E. Perew, same place.

633,298. Caisson. W. D. H. Washington, New York, N. Y.

633,376. Securing propeller-blades. Lewis Davies, Liverpool, England.

633,529. Paddle-wheel. W. B. Motheral, North McGregor, Iowa.

LOSS OF LIFE AT SEA.

According to an official report, there have been during the past year 419 English ships lost, and in the last twenty-two years, excluding men-of-war, 13,207. In only the part of this loss in which returns were obtainable 38,382 persons lost their lives, 32,854 being of the crews, and 5,528 of the passengers. The average annual loss of life has been 1,744. This, it must be remembered, is the loss in only one nation, though it is the greatest one in regard to its mercantile marine. It is gratifying to know that the organization of the life-saving service, meteorologic bureaus, and the increased perfection of the art of shipbuilding, are having a slow but certain effect in lessening the mortality. But it must be confessed that it is altogether too high, due, undoubtedly, to the facts of imperfect legislation, and to evils which legislation cannot reach. Loss of property in this way is equal to an indirect loss of the life or lives that went to the creation of the property, and this, with the deaths, directly caused by shipwreck, is a great drain upon the vital resources of civilization.

ENLARGE THE HAY LAKE CHANNEL.

Already there is reported to be a movement on foot to obtain from Congress the enlargement of the Hay Lake channel. It is estimated that it will cost from five to ten millions of dollars to give a channel of double the present width and with 20 feet of water at the point where the sinking of the Houghton across the channel arrested an enormous business. The loss estimated to have been caused by the interruption of traffic for five days was $1,000,000. The expenditure of $5,000,000 for a wider channel, or even of twice that amount, would be a wise use of money, and Congress would be justified in using it even if it were necessary to disappoint a good many demands for the enlarging and deepening of other minor waterways that might be deepened and enlarged to greater national advantage.

A CANADIAN SHIPPING FIRM.

Speaking of the new Quebec, Hamilton and Fort William Navigation Co., who has just issued its prospectus, the Hamilton Spectator says:

The prospectus explains that the company is being formed for "the purpose of constructing, acquiring and navigating steam and other vessels for the conveyance of passengers, goods and merchandise between the ports of Canada and any port of any other country, and of carrying on the business of common carriers of passengers and goods, and of forwarders, wharfingers and warehousemen, and of dealing in goods, wares and merchandise." These are the objects of the company as set forth in its charter, which is sufficient to cover any possible extension of the business. As a matter of fact, a beginning will be made by constructing and running freight boats of the largest size which can pass through the Canadian canals. The opening of the new St. Lawrence canals will create a revolution in the carrying trade of this country, and there will be plenty of carrying for all the boats which can be built in Canada for some time. The new company will have the advantage of the monopoly of carrying ore for the Hamilton Steel and Iron Co. (the directorates of the two companies being practically the same), and that alone will give freights one way—from Lake Superior to Hamilton—for six boats of the size which it is proposed to build. It is expected that the ore to be used in the blast furnace here will be taken from the Canadian mines of the Lake Superior region; but even in the unlikely contingency that the proper ore is not there in sufficient quantities, there will still be employment for the company's fleet, for the ore will have to come from the American side of the lake. Added to this assured trade the company's boats will have a share in the trade between Fort William and Montreal or Quebec, in the carrying of the grain of the Northwest to the ocean steamers. That this trade will be very large will be quite understood by those who have studied the situation.

It is fully expected that the company's arrangements will be sufficiently completed to admit of the building, at this city during the coming winter, of at least two large steamers.

SUN'S AMPLITUDES.

The following approximate amplitudes of the Sun's rising will be given each week in this column during the season of navigation. A second bearing may be taken by compass at sunset, by reversing the east bearing given for the nearest latitude, as the change in declination for a few hours makes but a slight difference in the true bearing of the Sun's setting. The bearing may be taken when the Sun's center is on the horizon, rising or setting. The three elements which may be obtained by taking these amplitudes are the quantities known as local attraction, variation and deviation.

LAKE ERIE AND S. END LAKE MICHIGAN, LAT. 42° N.

Sunrise.	Amplitudes.		Bearing P'ts.		Bearing Comp.
Sept. 20....	E. 1° N.	=	N. 7⅞ E.	=	E. ⅛ N.
Sept. 23....	East	=	East	=	East
Sept. 25....	E. 1° S.	=	S. 7⅞ E.	=	E. ⅛ S.

LAKE ONTARIO, S. END HURON AND CENTRAL PORTION LAKE MICHIGAN, LAT. 44° N.

Sunrise.	Amplitudes.		Bearing P'ts,		Bearing Comp.
Sept. 20....	E. 1° N.	=	N. 7⅛ E.	=	E. ⅛ N.
Sept. 23....	East	=	East	=	East
Sept. 25....	E. 1° S.	=	S. 7⅞ E.	=	E. ⅛ S.

N. END LAKES HURON AND MICHIGAN, LAT. 46° N.

Sunrise.	Amplitudes.		Bearing P'ts.		Bearing Comp.
Sept. 20....	E. 1° N.	=	N. 7⅞ E.	=	E. ⅛ N.
Sept. 23....	East	=	East	=	East
Sept. 25....	E. 1° S.	=	S. 7⅞ E.	=	E. ⅛ S.

LAKE SUPERIOR, LAT. 48° N.

Sunrise.	Amplitudes.		Bearing P'ts.		Bearing Comp.
Sept. 20....	E. 1° N.	=	N. 7⅞ E.	=	E. ⅛ N.
Sept. 23....	East	=	East	=	East
Sept. 25....	E. 1° S.	=	S. 7⅞ E.	=	E. ⅛ S.

With a compass correct magnetic, the difference between the observed and true bearing or amplitude will be the variation for the locality. Should there be any deviation on the course the vessel is heading at the time of taking the bearing, the difference between the observed and the true amplitude after the variation is applied will be the amount of deviation on that course. If the correct magnetic bearing is to the right of the compass bearing, the deviation is easterly, if to the left, the deviation is westerly.

THE largest steamship shaft in the world is on the Deutschland, which is 686½ feet long. The diameter of the shaft is 25.2 inches; total length, 53 feet 3⅜ inches; total weight, 223,000 pounds. It is made of nickel steel and has an ultimate breaking strength of 132 tons to the square inch.

MADE HER OCEAN RECORD.

The New York agents of the North German Lloyd line have received a cablegram saying that the Kaiser Wilhelm der Grosse arrived at Cherbourg, making the passage from New York in 5 days, 17 hours and 56 minutes, and beating her previous record eastward to that port by about 3 hours.

Her average speed was 22.44 knots. She cleared the bar at Sandy Hook at 12.30 p. m. on the 12th, and her daily runs were 499, 504, 517, 536, 530 and 518, making the total distance 3,104 knots.

A PROSPEROUS INDUSTRY.

The Hollow Staybolt Co., Cuyahoga Falls, O., has become one of the most prosperous industries in the State, and the business is still increasing in the marine trade as their hollow staybolts fully meet the government specifications.

The RECORD has just received the certificate of a test made by the Pittsburgh Testing Laboratory, Ltd., which shows as follows: Dimensions, 1.035; area, .8179; dimensions after fracture, .645; area, .3029; elastic limit in pounds, 30.600; maximum load pounds, 47.700; elastic limit in pounds per square inch, 37.410; tensile strength pounds per square inch, 58.320; fracture, silky.

A FREAK IDEA.

At the meeting of the State Commerce Commission, held in New York city on Wednesday, C. E. Wheeler, of the Cleveland Steel Canal Boat Co., said he was not in favor of broadening the Erie canal. He thought if it was enlarged to accommodate vessels of larger tonnage the present boats would be driven out of business, and it would be difficult to find capital to replace them. The great need, he said, was to get the canal boats as far west as Cleveland. To overcome the difficulty of reaching Cleveland by canal boats and to utilize the boats now in use Mr. Wheeler submitted a plan for building a large floating dry dock or pontoon capable of holding six ordinary canal boats. This pontoon would be lowered at Buffalo, the canal boats floated into it, the ends closed, the pontoon raised and towed to Cleveland or other lower lake ports, where a cheap rate could be secured for the railroads.

A SHIP ELEVATOR.

One of the most remarkable of recent inventions to facilitate transportation is the ship elevator just built by the constructors of the Dortmund-Ems canal.

When the engineer found that the fall of water near Meckinghoven was too great to be overcome by the ordinary lock, the necessity of the moment became the mother of this striking invention.

The drop of water which the usual lock is expected to deal with is about twenty feet, but this part of the new waterway presented a problem of twice that depth. Consequently, the engineers' wits were set to work and the difficulty overcome.

The ordinary lock gates were built at the higher and lower levels of the water, and between the two an immense steel frame was built as an elevator for the great basin, which is to receive the ships and lower or lift them as the case may be.

This basin will carry a vessel of considerably over two thousand tons, and can handle more than thirty such vessels in a twelve-hour day.

The Dortmund-Ems canal is a part of the great water-scheme known as "The Emperor's Canal."

ARTIFICIAL OUTLETS AT THE "SOO."

In justice to commercial interests at Sault Ste. Marie, the following letter, defining the position of the Lake Carriers' Association regarding the power canal that is being constructed at that point, was written a few days ago, by President Firth, of the association:

"To prevent any wrong impression on the part of those interested in the welfare of the Sault, permit me to say the Lake Carriers' Association is not opposed to the completion and operation of the Sault power canal. The association merely asks that before the canal is used there shall be remedial works constructed that will maintain the Lake Superior levels, avoid a dangerous current at the canal outlet, and maintain the levels in the river below the canal. Remedial works that will insure these results, should be constructed and currently maintained under direction of the United States. This is the reasonable position of the Lake Carriers' Association, and it has been cordially accepted and endorsed by the management of the canal company. The canal company clearly admits that the canal must be so constructed and operated that it will in no way endanger lake navigation interests. It is not necessary to refer in this brief letter to the possible interest of the Canadian Government in this question."

ATTENTION is directed to a recent decision of the Treasury Department, printed in another column of this issue of the RECORD, wherein owners or agents of vessels are compelled to notify the local inspectors of steamboats when docking their vessels for repairs. This law strictly enforced, would make a classification society of the inspection service and turn local inspectors into surveyors. It would be an elegant diversion to see some of the big stout hull inspectors crawling through the three feet water bottoms of iron and steel boats.

A NATURAL CONSEQUENCE.

Two of the most surprised men in the city yesterday were a couple of sailors from one of the war ships in the harbor, who were enjoying shore leave. They had been spending their holidays in a way peculiar to happy sailors, and at Walnut and Seventh streets completely lost their bearings. Just at this time a quaint old Quakeress, with the regulation of bonnet and gown of drab, came along and peered kindly at them through her spectacles. With much bowing and hitching up of trousers the two accosted her. One was a very tall man and the other was a short one. The latter, who acted as spokesman, asked the way to Market street wharf, and when directed to a car he said; "Lady, we've got to walk, we've got no money to ride." In an instant the kind old lady dove her hand into the reticule she carried and drew out an old-fashioned silk purse. In this she fumbled a moment, and to the surprise of the sailors pulled forth a large shining silver dollar. This she handed them with a sweet smile, and walked away. Instantly the two pulled off their hats and bowed and scraped their thanks until the woman was out of sight, when with one accord they broke simultaneously for the nearest saloon.—Record, Philadelphia.

LETTERS AT DETROIT MARINE POST OFFICE.

SEPTEMBER 20, 1899.

To get any of these letters, addressees or their authorized agents will apply at the general delivery window or write to the postmaster at Detroit, calling for "advertised" matter, giving the date of this list and paying one cent.

Advertised matter is previously held one week awaiting delivery. It is held two weeks before it goes to the Dead Letter Office at Washington, D. C.

Alward, Mrs., Yacht Cambria
Beaudoin, Baptiste
Beikeland Andrew
Bushaw, Burtha
Colville, J. L., 2, Str. Lyon
Colin, James, Str. Henepin
Clark, T.
Craig, Chas., Str. Spokane
Casturight, C.
Bailey, Mrs. Chas., Bge. Manitou
Davidson, Jno.
Brullard, Mrs. D.
Dyer, A. J., 2, Str. Sitka
Dasold, Clara
Elspass, Geo., Str. Omaha
Fobister, Wm., Str. America
Fitzgerald, Capt. M., Str. Hadley
Gordon, Ed.
Gratwick, Wm. H.
Hansen, J. H., Str. Adams
Henry, Wm.
Honor, P. J.
Isaacs, Freeman, Bge. 110
Issonheart, Capt.
Johnson, Kas., Bge. White & Friant.
Kinney, Jas., Bge. H. Whitney
Killveatj, Hi., Bge. Abyssinia
Lynch, Wm., Str. Wallace
Loomis, B. S., Str. Cambria
Mavuty, Guy, Str. America
McDonald, Thos. J.
McLellan, J. C., Str. Pawnee
Omaro, Michael, 2, Str. Peck
Platt, M. S.
Powell, T. B., Str. Idle Hour
Peltier, H. C.
Phillips Chas., Jno. Owen
Qualeskey, August
Russell, Mrs. A., Str. Martini
Robar, John, Str. Naples
Reeson, Robert, 2, Str. Pontiac
Stauffer, W. W., Bge. White & Friant
Stevens, Walter H.
Stephens, Morty
Vaughn, Harry, Str. St. Paul
Van Brunt, H. A.
Vos, Robert
Wineland, C. D.

"THEN you mean to tell me I have told a lie?" "Well, no; I don't wish to be quite so rude as that, but I will say this—you'd make a very good weather prophet."

GALVESTON is evidently working for the coast loading record, beginning her effort on August 15-16, when the steamer Ethelwalda was loaded for Wm. Parr & Co. with 120,600 bushels of grain in 13½ hours, 5,500 bushels being in sacks. On August 19 the steamer Shandon was loaded with 100,000 bushels of grain in five hours, and on the 20th the steamer Stanfield was loaded with 162,000 bushels of grain in six hours' working time. The foregoing is fairly good for a Texas port, but not a circumstance to the way bulk cargoes are usually handled on the lakes.

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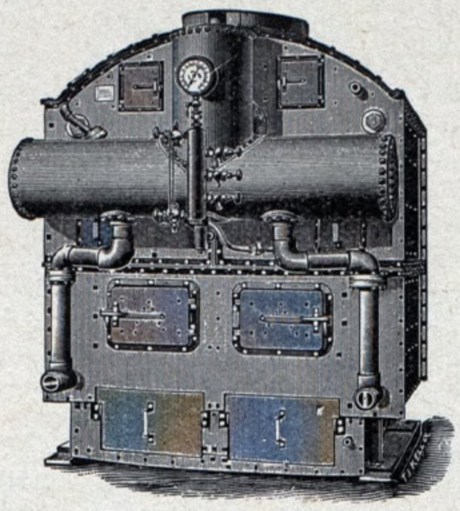

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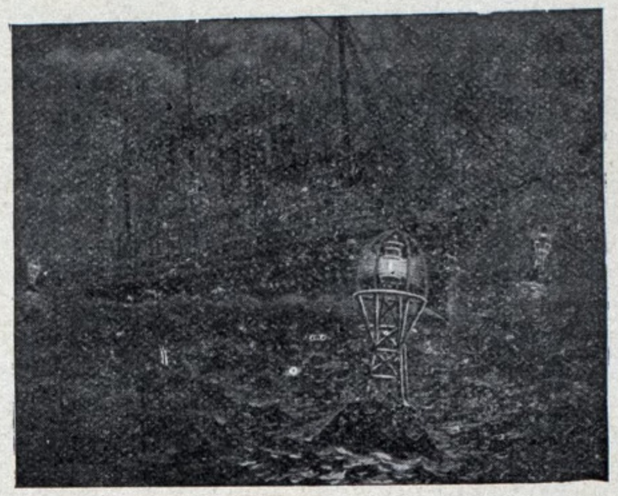

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PNEUMATIC RIVETING.

The remarkable growth of the portable pneumatic tool business has led to the conclusion that these small machines must have important advantages, either in the greater ease and rapidity of doing work or because the cost of work can be materially lessened by their use. The experience of the Chicago Ship Building Co. with portable pneumatic riveters was given in a paper by Mr. W. I. Babcock, before the Institution of Naval Architects, London.

Three years ago the Chicago Ship Building Co. began experiments to develop portable riveting machinery to be operated by unskilled labor, and with which all the rivets in a ship could be driven; we are told that this has now been done. Much trouble was had with the hand riveters, who are described as "extremely independent, arrogant and high-handed in their relations with the company, giving more trouble than all the other classes of labor in the yard put together." The riveting is said to be about the hardest manual labor connected with ship building, and the necessary skill is only acquired after a long apprenticeship at the trade and varying with the class of rivets driven. That is, a first class shell riveter cannot properly drive inside rivets, and a man trained on boiler riveting is of little use on any part of the ship's hull. The work is done in the open air, exposed to the weather, and the men wear out while still young. Wages are necessarily high, and most of the work is done by the piece, so, when work is to be had, the hand riveter makes a great deal of money at the expense of his vital energies, which he is too apt to attempt to restore by drink. All his tools are furnished, and as the work is much the same in all ship yards, there is little incentive to own anything or to remain long in one place. Besides getting rid of such troublesome workmen the riveting machines permit larger and longer rivets to be used than could be closed down by hand. On a recent ship 250,000 rivets were driven by compressed air hammers out of a total of 340,000, and the proportion would have been greater but for an insufficient air supply.

These machines consist of a pneumatic hammer and a pneumatic holder-on, mounted on a frame or yoke, although a few special forms of mounting are required for special work. Of the yoke riveters those with a 9-inch gap weigh 83 pounds, the 51½-inch ones 160 pounds, and those with a 70-inch opening weigh 220 pounds. These compressed air riveting machines are considered more suitable than other forms, being lighter and better adapted for use in close places, although they were selected only after other kinds had been tried. The severe winter climate in Chicago is unfavorable to the use of hydraulic compression riveters out-of-doors, the weight is excessive, and they had never made much headway in British ship yards, although long on the market. Electrical machinery is considered costly and delicate, and not well suited to the conditions. Also, a short experience with compression riveters driven by air, showed that because of their great bulk and weight (2,500 pounds for a 6-foot opening), they could not be handled so as to make them useful or economical. It was also deemed well to use compressed air for the riveting machines, as a compressing plant was necessary in any event to supply the pneumatic shipping and caulking hammers, and the drills and reamers, as well as to ventilate and cool confined places.

As to the quality of the riveting done by the pneumatic hammers, Mr. Babcock states that this is "first class in every respect, and far superior to hand work, and such is the unanimous opinion of the inspectors who have been and are on duty in our yard." This point has been the subject of a good many discussions. Further, it is said, that with the pnuematic hammers the rivets are closed down more rapidly, and at a much higher temperature; that, as it is easy to bring the hammer in line with the axis of the rivet, the rivet is plugged by the first blows, filling the hole throughout before the point begins to form. In confined places where hand rivets are apt to be poorly driven the pneumatic hammer is of great advantage, for if the rivet can be reached at all, it is as well driven as in the most open parts of the work.

The following figures of cost from a ship recently built are submitted, which it should be noted do not include the cost of air, repairs, interest, etc., but are merely the labor charges:

Inside Rivets—All ¾ inch.

	Number.	Average Cost. Cents.
Hand, piece-work	25,073	3.16
Hand, day work	9,255	8.57
Air	151,167	2.06
Steam	23,544	0.51

Shell Rivets—⅞ inch and 1 inch.

Hand, piece-work	51,306	3.99
Hand, day-work	4,314	7.69
Air	74,493	2.96

It is not known just how much should be added to the pneumatic riveting to cover interest, maintenance and the cost of compressing the air, as many other pneumatic tools were in use at the time the riveting was being done. During much of the time, also, the full air pressure could not be maintained, due to insufficient compressor capacity, which seriously impaired the efficiency of the hammers. Then the development of the riveting machines as well as breaking in the men, took place while this ship was building, which affected the cost, especially as the men were not riveters or mechanics, but merely common laborers. Because of these things the comparison of costs is probably not fair. The steam riveter was stationary, and was used only for such portions of the work as could be assembled and handled as a whole. The largest rivets driven with these hammers are 1 inch in diameter.

VESSELS CLASSED.

Vessels classed and rated this week by the American Bureau of Shipping in the "Record of American and Foreign Shipping," New York: Schooner, Augustus Hunt; schooner, Chas. E. Balch; three-masted schooner (tern), Henry R. Tilton; tern, Luther T. Garretson; tern, Sally I'On; tern, Sadie Wilcutt; tern, Norman; tern, Warner Moore; schooner, T. Towner; bark, Nuuanu; ship, I. F. Chapman; ship, Wm. H. Smith; half brig, Leonora; British bark, Annie Bingay; British schooner, Oriole; British half brig, Venturer; Russian schooner, Wesa.

BRITISH mariners see an important collision-preventing apparatus in the ingenious sound locator of Mr. James Anthony, of Newcastle. This has a large circular-mouthed sound collector, with a resonator, from which the sound is transmitted through a receiver to the ear tubes. When the operator has turned the collector toward a whistle or a fog signal, the exact direction is shown on a dial.

HOTTEST PLACE ON EARTH.

When we wilt, swelter, and perspire under the afflicting temperatures of our hottest summer days, we have one unfailing consolation: It is hotter some where else, says Lloyds's Weekly Newspaper. In one region only of the terrestrial surface is such relief denied. That region is the hottest place on earth—the unhappy area in which the agonized inhabitant is overwhelmed by the fact that anywhere and everywhere else in the world weather is delightfully cool—by comparison.

All will be glad to know just where the hottest place on earth is. In times past there has been much disputation over the subject, but the authorities are agreed on the spot I am about to name. Curiously enough, this territory is not a desert, not Fort Yuma, not even the Arizona plains, although a poet well described them by declaring that the lost spirits, wandering from their infernal abodes, stood on the borders of that region, with eyes blinded by the sun's reflected glare; then in terror hurried back to their sulphurous lakes—to avoid the heat. No; the hottest place in the world is, with all respects to ocean summer resorts, on sea shore.

The region of maximum temperature is an extensive area on the Persian Gulf, a part of the southwestern coast of Persia. This territory includes also the Bahrein or Aval Islands. June, July and August are terrific, unendurable, save to the natives—and hideous to them. Day after day the mercury will mark more than 100 degrees in the shade. By day here I mean the diurnal twenty-four hours. Think of it, you who look with fearful eyes on the thermometer that registers 100 degrees at noontime! Imagine the horror of striking a match at midnight, and reading a 110 degrees? It hardly seems possible, yet it is officially declared that this frightful heat is not excessive—in that country. Often 140 degrees in the shade is attained in the afternoon.

IN the pages of the Utica Observer one of the passengers by the Cunard line steamer, Umbria, on a recent voyage to New York, when she was delayed by a long belt of fogs states as follows: "I can cheerfully say that I never sailed under a captain who so impressed me by his capacity to stand up against the strain of a long-continued fog or severe weather as Capt. Dutton did. He does not know me from any of the other passengers on that ship—I did not speak to him, nor he to me—but I watched him, and I observed first of all that his only thought was of his ship." "Some captains," continues the writer, "when off duty make themselves agreeable to the passengers, and some like to pay courteous and gallant attention to the women, being fond of the compliments that women love to bestow upon the sailor; but Capt. Dutton seemed to be unaware that he had passengers. He brought that ship across the ocean through those everlasting fogs exactly, as it seemed to me, as a cat treads some perilous passage, feeling with cautious and gentle, yet persistent purpose, every step, and not taking it until security is assured. He cast his anchor when off Sandy Hook, choosing delay rather than risk. Some captains would have taken the risk and gone ahead. Now, there were six days of incessant strain, no 'let-up' from it, and no chance for a sigh of relief until the ship was in the Narrows." The writer might have said, and, with truth, a lot more nice things about Capt. Dutton, who is a sailor from the ground up, he has been about a quarter of a century in the Cunard line, after a varied experience in sailing ships.

THE ATLANTIC ROUTE.

The dangers of travel between Europe and the United States are considered by H. Phelps Whitmarsh, in an article to the September Century. They are not so great, it seems, as those of railway travel; for four out of every thousand travelers are killed or injured in traveling by rail, while only two are killed or maimed at sea. The establishment of specific and separate tracks for eastward and westward-bound steamships has doubtless decreased the chances of collision. Unfortunately, however, only the passenger lines have agreed to use these ocean lanes, and, in consequence, there is still the risk of meeting tramp steamers and sailing vessels. Capt. Randle, of the steamship St. Louis, has kindly furnished me with two practical ideas on this phase of my subject, as follows:

"There are two suggestions that I would offer in regard to making life on the Atlantic ocean safer than it is to-day. The first is the establishment of eastward and westward routes one degree to the southward of their present position. This, though it would increase the time of passage by an hour or so, would take vessels out of the greater part of the fog area. The second is the making of an international law which shall compel all vessels crossing the Atlantic, whether under steam or sail, either to follow the routes laid down or to give them a wide berth."

The "feelings" of captains in regard to safety are not, as has been sufficiently proved, to be depended on. They should be compelled, under the penalty of losing their certificates, to comply with the law, particularly with regard to speed in "thick" weather. To this endit is suggested that all steamships be required to carry tell-tales in some part of the ship accessible to all, which will register at all times the rate of speed at which the vessel is going. Finally, the steamship companies should be made liable for the human freight they carry. Why steamships, in contradistinction to railroads, should be allowed to consider accidents as an act of God, and, with the loss of the ship, be exempt from liability, is beyond my comprehension. Accidents, both afloat and ashore, are inevitable. Occasionally they are caused by conditions over which man has no control, but in ninety-nine cases out of a hundred they can be traced to some human error, and in the interest of safety all common carriers, whether they float, roll or fly, should be forced to take precautions, which only their liability will secure.

Spontaneous humor is often shown in telegrams written under excitement. A man who had been one of the passengers on a shipwrecked vessel was rescued almost by a miracle. On arriving at a place from which he could send a telegraphic message, he forwarded the following dispatch to his brother:—"I am saved. Try to break it to my wife."

A BOAT TWO THOUSAND YEARS OLD.

In the course of excavations at Bruges, in connection with the west basin of the port, a boat dating from before the Christian era has been discovered, says a Brussels correspondent of the London Daily Mail. The boat, which is of oak, is about 30 feet long and 7 feet broad, and its mast, which is broken in four pieces, was apparently about 24 feet high. It was unearthed at a depth of about 20 feet, and must have been stranded when the sea covered a part of Bruges, a period anterior to the Christian era.

VISIBLE SUPPLY OF GRAIN

As compiled for THE MARINE RECORD, by George F. Stone, Secretary Chicago Board of Trade.

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY Bushels.
Buffalo	1,961,000	1,088,000	307,000	38,000	164,000
Chicago	6,603,000	1,853,000	1,190,000	243,000	31,000
Detroit	635,000	42,000	12,000	7,000	1,000
Duluth	4,876,000	169,000	72,000	107,000	88,000
Fort William, Ont.	687,000	.....	.....	.....	.....
Milwaukee	64,000	5,000	46,000	.....	3,000
Port Arthur, Ont.	100,000	.....	.....	.....	.....
Toledo	2,155,000	667,000	614,000	12,000	1,000
Toronto	44,000	.....	5,000	.....	6,000
On Canal	614,000	163,000	103,000	.....	64,000
On Lakes	2,273,000	1,394,000	200,000	.....	220,000
Grand Total	39,288,000	8,107,000	6,528,000	627,000	619,000
Corresponding Date, 1898	10,188,000	19,247,000	4,701,000	625,000	660,000
Increase	3,171,000	490,000	867,000	30,000	.....
Decrease	.....	.....	.....	.....	1,000

While the stock of grain at lake ports only is here given, the total shows the figures for the entire country except the Pacific Slope.

A Pennsylvania doctor who has a decided vein of humor in his makeup tells this story: "I had an Irishwoman for a patient many years," said the doctor. "God rest her soul, she is now dead. I once pulled her through a lingering attack of typhoid, taking her temperature from time to time by having her hold a thermometer under her tongue. When she had nearly recovered I called one day and, without further testing her temperature, left a simple prescription and started on my way homeward. About three miles from her house I was overtaken by her son on horseback. 'Mother is worse,' said he, come right back.' Back I went. 'Docther,' said the old lady, reproachfully, 'why didn't ye give me the jigger undther my tongue? That did me more good than all the rest of yer other d——thrash!'"

General Average.—On a lawful sale of a portion of a cargo by a master for the general good of the ship and cargo, it should be accounted for on a general average. The Brewster, 95 Fed. Rep. (U. S.) 1000.

REPORTED BY THE LOOKOUT.

Twelve years ago, one sailor out of every 106, on the average, lost his life by accident. Now the proportion has been reduced to one in 256.

The Canadian schooner J. R. Benson, whose wreck lies in the channel at Sandusky has been abandoned. The government officials will cause the wreck to be blown up.

The tug E. T. Carrington, of Duluth, has arrived at Houghton with a sand sucker and commenced the work of releasing the stranded schooner Wenona, which went ashore last fall. A channel will be dredged and it is thought the schooner, which now lies high and dry, can be released without much difficulty.

Government officials or engineers may say that the boatmen overload their boats and cause all the trouble of grounding in the harbors, but that does not remedy the difficulty, nor is it at all likely to lighten the loads. So long as some harbors admit boats with a draft of 19 or 20 feet, the harbor that has but 17 feet 6 inches will be placed at a disadvantage. The harbor here is very defective in certain places, especially at the bridge. These shallow places need immediate attention, and the whole river to the steel plant should be deepened as soon as possible. The city has an immediate duty to perform in this matter, and it should not be niggardly in entering upon it.—The Times, Lorain, O.

The superstition of sailor folks is proverbial. Some of the yacht-racing sailors are also as foolish in the belief in hoodooed vessels as were the Polynesian fishermen who made sacrifices for a good breeze. Among the things still considered unlucky are women, cats and sky pilots or ministers on board ship, and recently a crew mutinied on being asked to go to sea with a bride. Hundreds of miles of articles have been printed to show that a vessel unlucky at her launch remained so through her career, when in reality it is just as often the other way. There are numbers of instances cited to prove the truth of this statement.

I have often been disgusted at hearing some Jack, Dick or Tom temporarily in charge of the deck of a sailing vessel, continually hollering to the look-out during the prevalence of a fog, "keep that horn going" and this, especially, when we were the giving way vessel. A correspondent writing on this subject says: "The first thing that an officer does when he hears a whistle or fog horn is to blow his own, and he always answers the distant signal at once. The man on the other vessel cannot possibly hear him, because his ears are deafened by the sound of the noise of his own whistle, and he is, therefore, not aware of the presence of the other vessel until it is too late to avoid a collision, then at a subsequent trial he will swear, and truthfully, too, that he never heard the other whistle or fog horn, although it was blown as often as his own and at nearly about the same time. Deck officers should be warned that if they blow their whistle or horn immediately after hearing another one they will not be heard. They should wait at least half a minute before they answer a distant call, in order to allow those on board to regain the full use of their sense of hearing. Admiralty courts might perhaps enforce this feature of sound signals with a more telling effect than any other authority. It is also a vulnerable point for proctors in admiralty to hitch on to and may furnish a key to the evidence in many, otherwise inexplicable situations of vessels in fog.

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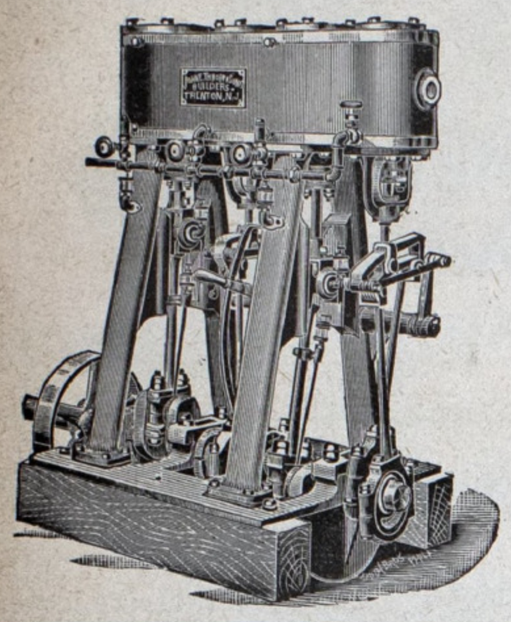

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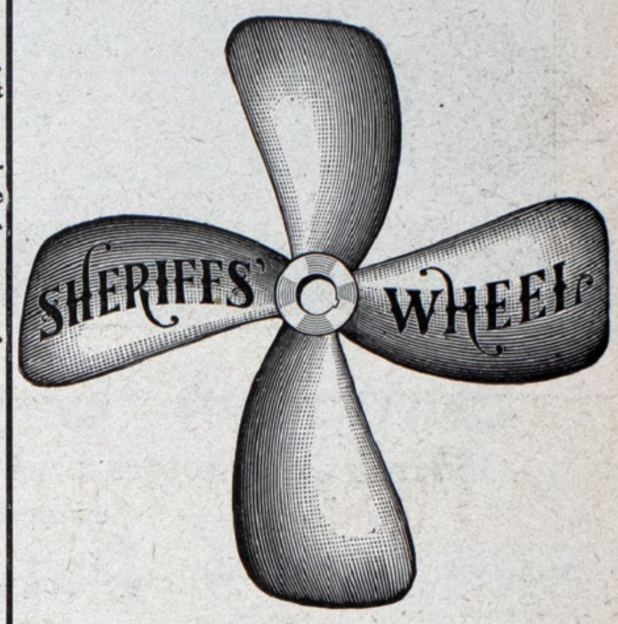

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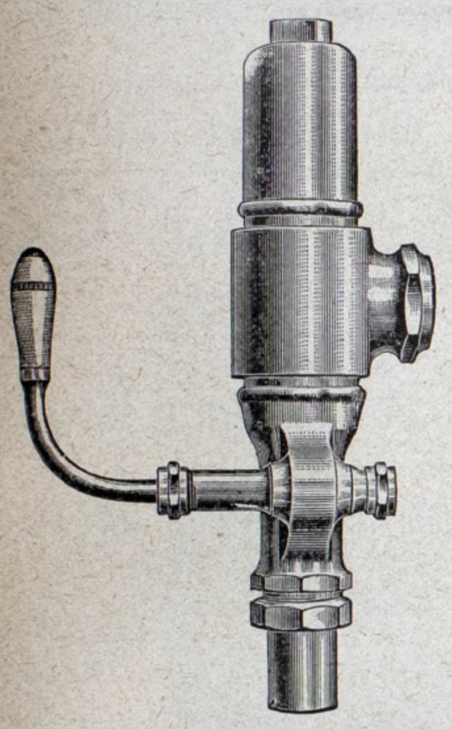

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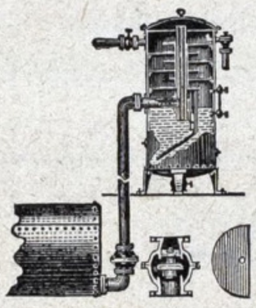

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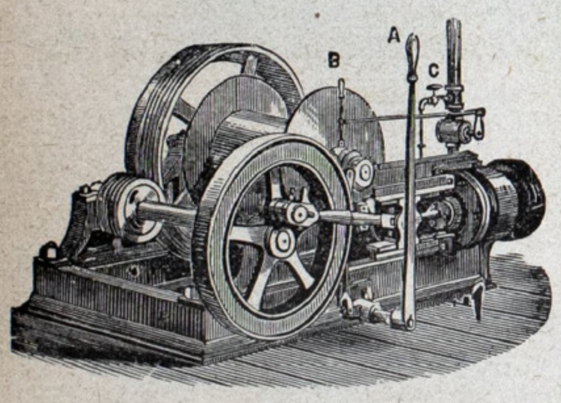

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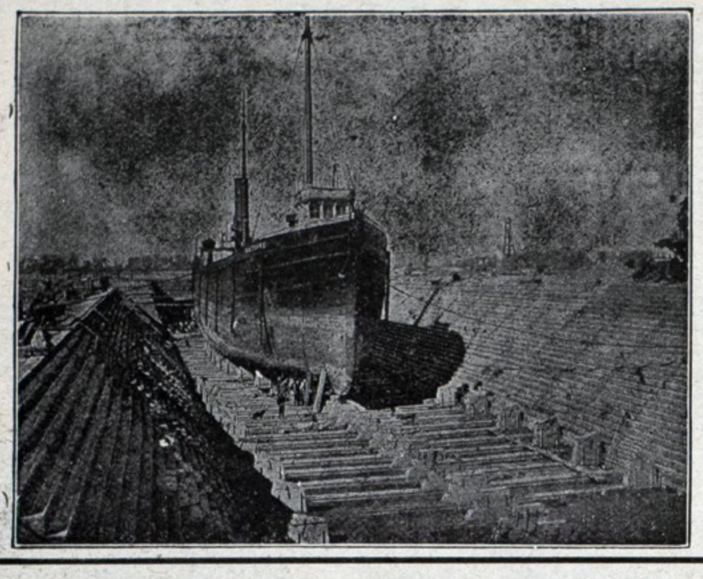

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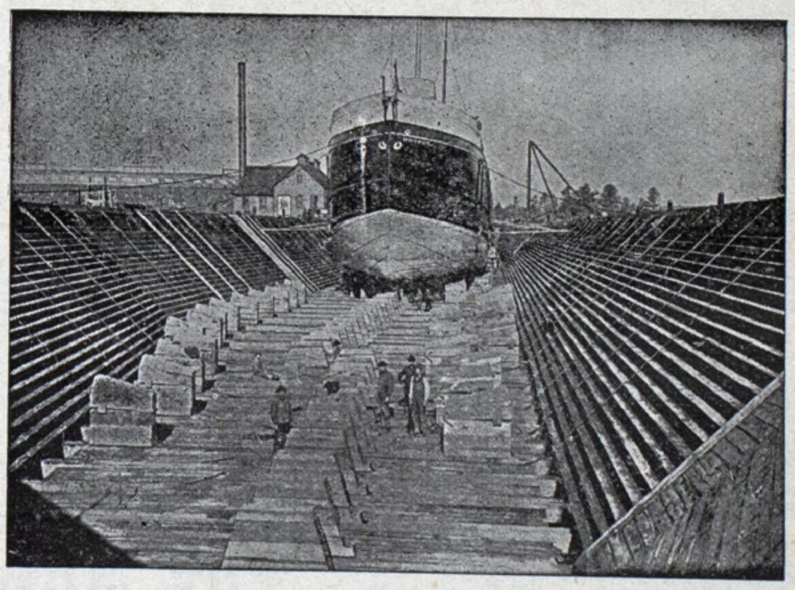

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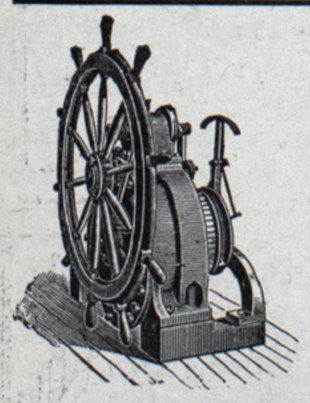

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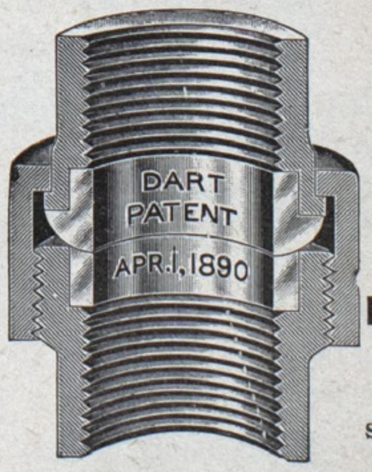

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